

# Western Industry

June  
1958

Vol. XXIII No. 6

## WESTERN ROOFING

8 pages

buyers' directory

best manuals



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*. . . for more details, circle No. 2 on Reader Service Postcard*



# Western Industry



June, 1958

Vol. XXIII, No. 6

## 5th ANNUAL PLANT ENGINEERING and MAINTENANCE ISSUE

### Plant engineering production, quality to record levels . . . . . 28

This plant stepped up production and quality to record levels by revamping its finishing dept. New ideas and equipment turned the trick. It can work in your plant.

### Cutting cost on lift truck maintenance . . . . . 30

Operating old lift trucks may cost more than buying a new one. By using the daily maintenance records detailed in this article, you'll know when to make the change.

### Material handling show pictorial review . . . . . 32

Miss the M-H show in Los Angeles? If you did, you'll get some cost and time saving ideas from these pics. If you were there, renew old friends and new ideas.

### Selected production and maintenance ideas . . . . . 34

Find out how these steam traps reduce maintenance . . . how a power transmission application hikes production over 100% . . . a sump pump on wheels saves time and money . . .

### STEEL BUILDINGS—a study in savings . . . . . 50

This detailed study shows you why steel buildings are mushrooming throughout the West. Low cost and pre-fab precision are just two of the many advantages.

### Best manuals on paints, protective coatings and lubricants . . . . . 58

Yours for the asking—20 best manuals on paints and protective coatings—and 20 best manuals on lubricants and lubricating equipment. Circle numbers on postcard, p. 77.

**WESTERN ROOFING**—A special WI report (8 pages) covering "What Can Happen" . . . "Why Do Roofs Wear Out" . . . "New Roofs" . . . "Maintenance" . . . Followed by a directory listing over 100 Western sales outlets for roofing equipment; and by 15 of today's best roofing manuals—yours for the asking. Section starts on . . . . . p. 35

## DEPARTMENTS

News Notes from the West . . . . .	12	New Equipment . . . . .	74
Western Meeting Reports . . . . .	20	Industrial West on Its Way . . . . .	93
Helpful Literature . . . . .	63	Classified Advertising . . . . .	109
Index to Advertisers . . . . .			110

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**The Essential Publication for Manufacturing Management in the New Industrial West**

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## Looking for cost leaks? Look at your steam traps

Engineering approach to steam trapping  
can save thousands a year on costs of fuel,  
trap maintenance, process cycle time,  
and uniformity of product quality

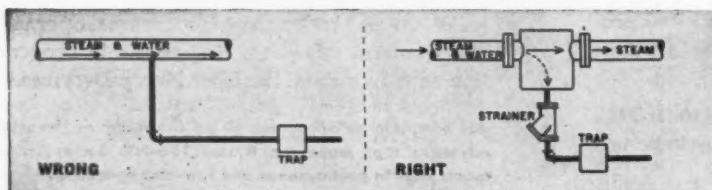
Plant and process engineers all across industry have found that Sarco *Production-Planned* steam trapping can pare operating costs by thousands of dollars a year.

*Production-Planned* steam trapping is an engineering approach to the problem of getting full design values of heat transfer from steam using equipment. Scores of case histories show that it can make substantial savings and improve processing efficiency. At the same time, costly trap maintenance can be greatly reduced.

In Sarco *Production-Planned* steam trapping, traps are matched to the job by type as well as size. They are properly placed, correctly installed. And, to keep down maintenance and replacement costs, every trap is top-quality.

It may pay you well to take this engineer's-eye view of *your* steam trapping. And why not have a Sarco representative look over your system with you? His suggestions will be completely objective because Sarco—and only Sarco—makes a steam trap for every basic requirement. Quality? Recognized everywhere for half a century.

### Production-planned systems make best use of traps



As the two illustrations above show, correct application of steam traps is as necessary as using the right trap. In the hook-up on the left, the lack of a condensate collection point plus the long leg to the trap will result in condensate's flowing past the drain point, possibly causing water hammer. The correct way to install the trap is shown at right, placed close to the drain point. A *strainer* should be placed before *any* trap to prevent entrance of scale or other foreign matter into the trap.

This is just one example of the way your Sarco representative can help you plan your steam system for maximum production.

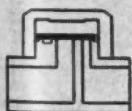
### Traps must be matched to job for best system performance

No single type of steam trap will perform well in all applications. Each type has a range of applications for which it is best suited. For optimum efficiency these differences must be taken into account; traps must be chosen for their operating principles as well as their size and pressure rating.

Sarco can give you impartial help in selecting traps because only Sarco makes the five basic types. With Sarco, it's simple—one source, one responsibility, for all your trapping needs.



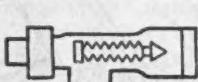
**Only Sarco makes these five basic types of steam traps**



Therme-Dynamic\*



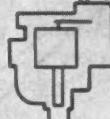
Thermostatic



Liquid Expansion



Float-Thermostatic



Camlift Bucket

5579

**Take these two steps to Production-Planned steam trapping:**

- (1) Write today for Sarco literature; (2) Talk with your Sarco representative. He can help you check your trapping requirements, and he has—or will quickly get—the right answer to any unusual trapping problem.

\*T.M.U. Pat. No. 2,817,353.

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## THE MAN FROM GP IS HERE

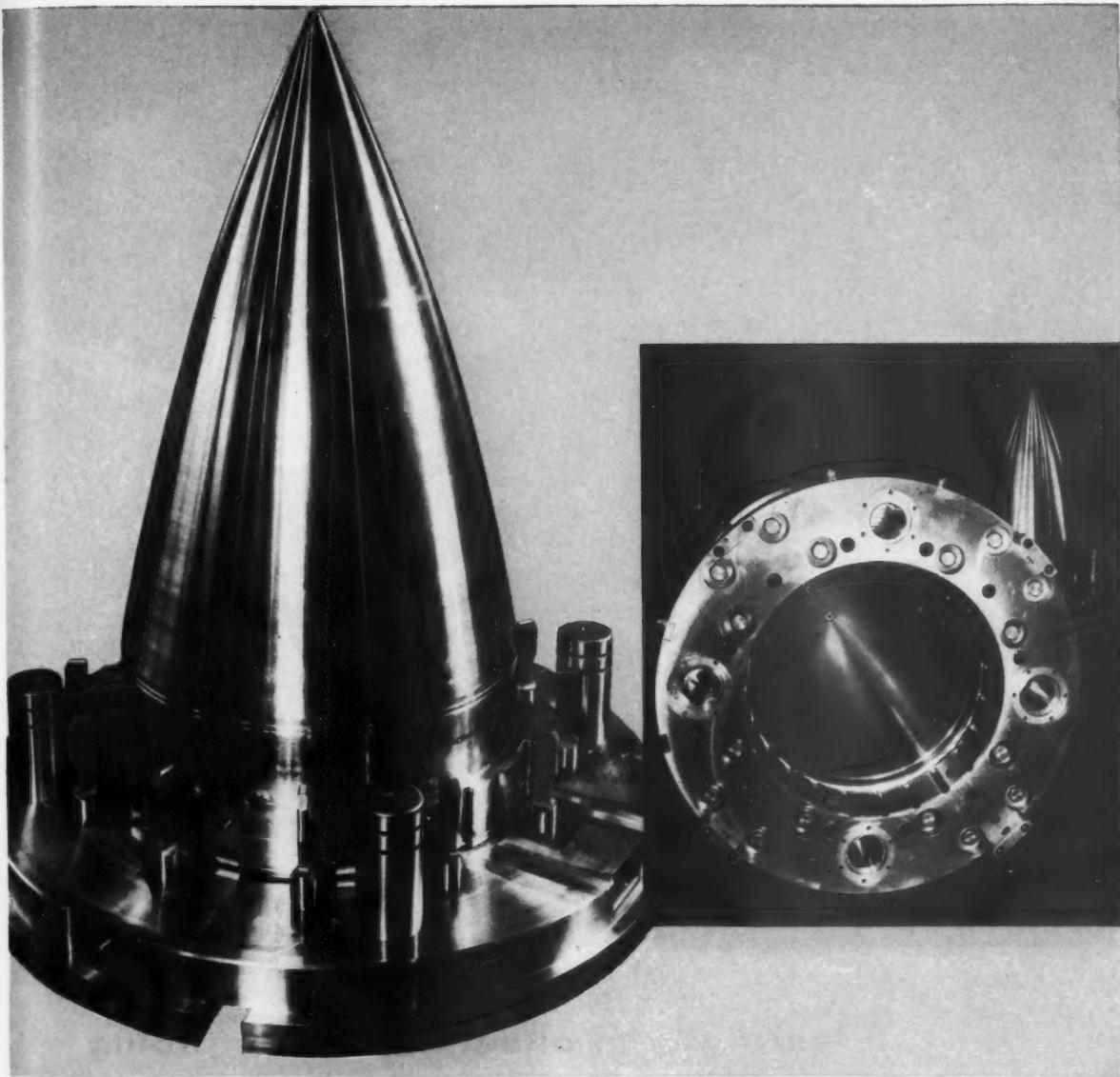
Hurry-up calls for lubrication help are made every day by operators of geared machinery from Alaska to the Mexican border. They know their local GP man is a guy with hustle and know-how, a guy who'll lend a hand to help solve the toughest lubrication problems. They rely on him with good reasons: He knows his job. He knows his lubricants. His Mobil Compound, especially formulated for severe service, reduces wear and keeps them running smoothly and efficiently.

Next time you have a tough lube problem, give your local GP man a call. If it's a special problem, he's got a staff of petroleum engineers and the Socony-Mobil Laboratories to pitch in and help. One way or another they'll lick your problem. On that you can depend.



... for more details, circle No. 5 on Reader Service Postcard

2-222  
WESTERN INDUSTRY — June 1958



The matched metal dies for forming the plastic noses of jet aircraft are 3 feet high, completely contoured and mirror finished.

## Difficult nose mold for jet aircraft made by National Supply

An unusually difficult plastic molding job is the radome nose for jet aircraft. For accurate guidance in seeking target, the radome must be electrically uniform. This means that the plastic walls must be very accurate in thickness.

The matched metal dies that form these plastic noses are about 3 feet high. Their surfaces are contoured all over, yet the die halves must mate precisely. They are mirror finished. It sounds like a project for a company specializing in die-making. Yet, the dies were made under contract by the Torrance, California, plant of National Supply.

Why? Because our Torrance Plant can produce just about anything that's big and made of metal. We can trepan fifty-foot holes in solid steel to make gun barrels

and propeller shafts for ships. We can make special castings from alloys melted in our own electric furnaces—and machine these castings to precision tolerances. We have made such items as 7-ton cement mill bearings and special jigs for manufacturing air-frames.

National Supply's Torrance Plant is the largest completely integrated machinery-making plant in the entire West. Find out soon how we can serve your needs.



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COMPANY**

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WESTERN INDUSTRY—June 1958

# Experience-proved products pay off



**marks the spot**

**Idlers are hard at work** here—Jeffrey belt conveyor idlers, that is. The housings make an imposing picture, as conveying is big business at this pulp mill. The conveyors are just as smooth and efficient inside as they are good looking outside, for there's no finer idler.

Whether Jeffrey idlers are working on "white collar jobs" like here or underground in a coal mine—on conveyors a few feet long or stretching miles across country—all have these things in common: Proved in years of service, the finest of designs and materials, engineered for the services they're performing.



**Oysters are easily shocked**—relax, open their shells and dry out. Unloading boats and conveying oysters to shucking tables and storage has to be done carefully, therefore. Jeffrey cooperated closely with the architects at this company's dock. Now production is up 15% on these ocean delicacies, thanks to a well-engineered materials handling system.



**Precision machining** of Jeffrey sprockets matches the precision workmanship employed in manufacturing Jeffrey chain. This helps account for the longer life on heavy-duty power transmission and conveying jobs where Jeffrey chains and sprockets are used.

**MECHANIZE** with Jeffrey machinery and save. Your materials-handling and power transmission equipment will give more efficient, economical operation if you employ time-tested, dependable Jeffrey products.



## JEFFREY

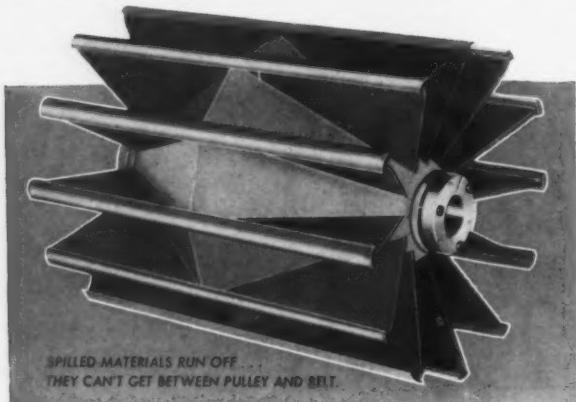
Founded in 1877

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# PULLEY with WINGS... multiplies belting life



## NEW BARRY "QD" WING-TYPE PULLEY from R. & J. Dick

**FOR SAFETY, ECONOMY . . .** Where fluids or other waste spill on the pulley or belting, installation of this new wing-type pulley will reduce the hazard of belting breaks and minimize belting replacement costs. Foreign materials run off; they can't cause abrasive wear, or chemical reactions harmful to the strength of the belting. Also, belting wear is retarded because of the reduced area of contact between belting and pulley.

**FOR HEAVY-DUTY SERVICE . . .** The pulleys are of sturdy welded-steel construction, and have demountable "QD" type tapered hub assemblies for easy installation. Made in a wide range of sizes.

Call or write for folder, "BARRY 'QD' Wing-Type Pulleys"

Also, Makers Of: adjustable-length "Dixlink" V-Belting  
versatile, durable "Dixylon" Plastic Belting • Dick Balata Belting  
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THE LATEST AND BEST IN ALL TYPES OF POWER  
TRANSMISSION AND CONVEYING EQUIPMENT  
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### News Notes from the West

**Editor** — Interest in the Engineering Clinic (as described in the March WESTERN INDUSTRY, p. 12) is growing steadily. We are receiving inquiries daily from many sources . . . so many we are unable to keep up with them.

To save time, I ask that all correspondence sent me inquiring about the Clinic contain the degree of interest. For example:

1. If the interest is in taking part in the Clinic as a working member . . . please include a resume of education, experience, background, area in which talent is available, type of work most capable of handling, etc., etc.

2. If the interest is in the use of the Clinic . . . please indicate the type of work, location, urgency, etc., etc.

Such information in the first letter will eliminate many hours of unnecessary correspondence and will bring the Client and Clinic together much sooner. As it is now, we may have a month or more between a request for a certain talent and the location of the individual we feel qualified to handle the job.

A very graphic example is before me right now (in fact, one of several):

A prominent manufacturer is interested in having the Clinic supervise a test being run on one of their products. We do not now have a man with the necessary electro-chemical background.

This work will be in the Bay Area, starting this summer. It may be that such talent will respond to this letter. If not, or if we feel that the background offered is not qualified, it will be necessary to turn down this firm.

So we are hoping for the right man to respond.

The basic aim of the Engineering Clinic is to furnish **Mr. Small Industry** with engineering and scientific executives of sound, mature judgement . . . on a consulting basis in most case superior to those maintained by **Mr. Big Industry**.

Please direct all inquiries about the Clinic to:

R. D. McCoy  
P. O. Box 866, Menlo Park, Calif.

**INFLATIONARY FORCES THREATEN** to become even more active in California as the state approaches the 1960's, according to a study of California's labor force reported by the National Association of Manufacturers at Palo Alto. And by 1965, if past trends continue, the state's work force will be slightly smaller in relation to the total population than it was in 1950. More women will be in the labor market, but a decline is foreseen in the proportion of men in the work force. This and other information is contained in a news release put out by the NAM, located at 532 Emerson St. (P. O. Box 880) in Palo Alto, Calif.

**COMPLETION OF FOUR SAFE YEARS** was celebrated recently by Kraftile Co., Niles, Calif., at the mid-morning break, with Cokes on the house.

L. R. Alt, vice president in charge of production, and C. W. Kraft, president, spoke briefly. Mr. Kraft noted that a good safety record is an indication of high morale. "I have never known a plant that was run in a clean, efficient manner not to have a good safety record."

High costs got you over a barrel?



**See how you can save money  
on lubrication with**

# Shell Alvania Grease

*the modern multipurpose industrial lubricant*

Lubrication mistakes...top-heavy grease inventories ...excessive time spent on lubrication—all these problems *can* cost you money if you're still relying on several special purpose lubricants.

That's why so many profit-minded companies are switching to Shell Alvania Grease. For Alvania is the one grease most plants can use for *all* grease applications.

Shell Alvania owes its versatility to a patented lithium hydroxy stearate base. Thanks to this Shell development, Alvania resists the punishment of heat, water and oxidation far longer than ordinary greases.

Now is the time to improve lubrication efficiency and save money with Shell Alvania. Call your Shell representative this week.



## SHELL ALVANIA GREASE

- ✓ Replaces several special purpose greases, saves time, trouble and money
- ✓ Resists water, inhibits corrosion
- ✓ Remains plastic in sub-zero weather
- ✓ Stays stable under sustained high temperatures
- ✓ Developed by lubricant specialists at Shell research laboratories

... for more details, circle No. 10 on Reader Service Postcard



SUNNYVALE, CALIF.—3-ton Cleveland Tramrail motorized push-button-operated crane in 50' x 230' prefabricated building

of Westinghouse Electric & Manufacturing Co. Large pipes and heavy bars are easily handled in and out of storage by one man.

#### FOR HARD SERVICE APPLICATIONS

## Western Industry ACCLAIMS Cleveland Tramrail

Hundreds of Installations are now Profitably Serving Aircraft—Automotive—Canning—Chemical—Foundry—Glass—Lumber—Machinery—Mining—Paper—Printing—Rubber—Shipbuilding—Steel Producing—Steel Fabricating—Warehousing—and Other Industries in the West

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CLEVELAND TRAMRAIL DIVISION • THE CLEVELAND CRANE & ENGINEERING CO. • 8843 E. 290 ST. • WICKLIFFE, OHIO

SEATTLE—Canneries in various parts of the country are speeding production and reducing worker fatigue with Cleveland Tramrail. Illustrated is a simple track loop that serves 10 retorts at Washington Farmers Co-op Association. This system has been in service since 1946. Canning efficiency is higher because retorts are loaded and unloaded quickly with the Tramrail equipment, keeping "down time" of the retorts to a minimum.

DENVER—For 65 years The C. S. Card Iron Works Co. has specialized in the building of mine cars. In 1953 they installed two parallel crane runways in their fabricating shop. Each runway has four transfer cranes. Four electric hoist carriers, two of 5-ton and two of 3-ton capacity, serve all eight cranes. The Tramrail system was designed to enable a load of 16 tons being handled by four cranes. The distance from floor to runway track is 25 feet. Despite this great height, the cranes are propelled by hand, which is evidence of their smooth, easy operation. The photo shows one of the cranes loading a truck.





**BURBANK, CALIF.**—5 ton, 118'-0" span, 2-runway crane handling test load in Quonset-type building at Lockheed Aircraft Co. Studies made indicate that the Cleveland Tramrail under-running type crane have several important advantages over standard top-riding cranes: (A) Lighter in weight, (B) Less costly runway support, (C) Easier to erect, (D) Parts of Tramrail crane are standard components readily adaptable as future changes might require.

With 25% overload, deflection at center of truss girder is only 1/1200. Trolley and bridge motions have two speeds: 37-100 f.p.m. The control provides smooth acceleration and prevents jerky operation.



**LOS ANGELES**—Layne & Bowler Pump Company, one of the largest pump manufacturers in the West, handles much of their work in process with Cleveland Tramrail cranes. Spray painting is one of the jobs that is speeded with a crane because heavy parts can be brought into the spray booth, held while painting and removed from the booth without being detached from the crane hook. The crane illustrated is hand-propelled with a two-ton electric hoist, operates on three tracks and has a span of 50 feet.

... for more details, circle No. 11 on Reader Service Postcard

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**7124**  
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**Catalog No. 56.**

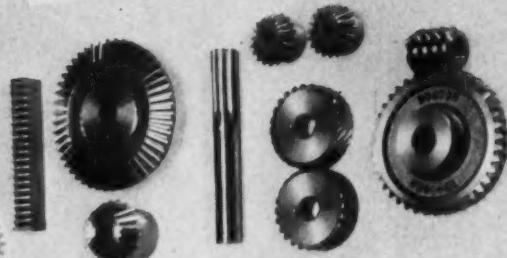
It's your reliable guide to  
 lasting economy — in  
 drive design, in plant  
 maintenance.

**- STANDARDIZATION PAYS -**

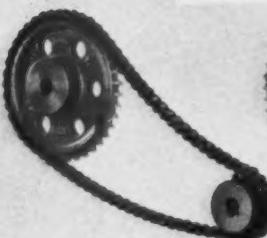
Design  
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**BOSTON**  
*gear*<sup>®</sup>

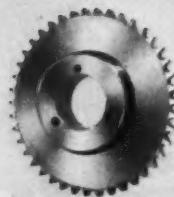
**STANDARD STOCK GEARS**



**SPROCKETS AND CHAIN**



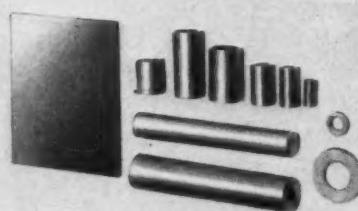
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SPROCKETS**  
with Keyway & Setscrew



**Certified BOSTON<sup>®</sup> BRONZE BEARINGS**



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**RATIOMOTORS**



**FLANGED REDUCATORS**  
1605 different types and ratios FROM STOCK

**REDUCATORS**

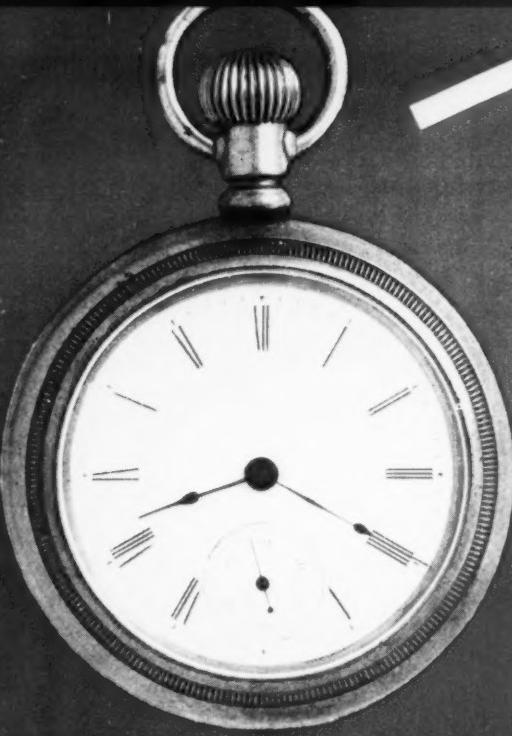


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**WESTERN INDUSTRY — June 1958**

*... for more details, adv. opp. pg., circle No. 13 on Reader Service Postcard →*





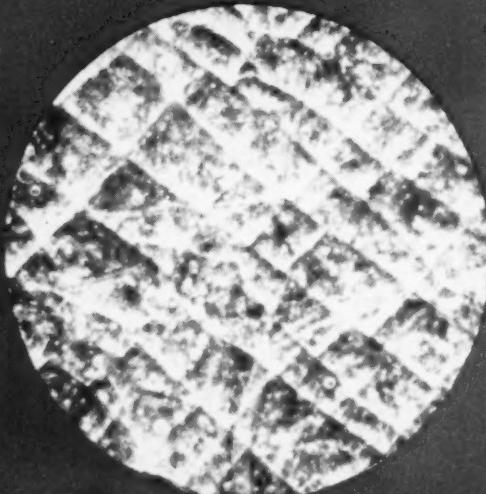


Taping Production UP!

Taping Costs DOWN!



## with new **FLASH-TITE**, gummed tape



Photomicrograph of New FLASH-TITE enlarged 40 times.

SEND FOR FREE SAMPLE ROLL and prove how the new Flash-Tite keeps taping production UP, taping costs DOWN. Flash-Tite, Crown Zellerbach, 343 Sansome, San Francisco 19, California, Dept. I.

the tape that gives you the 2-WAY BONUS:

- Micro Pliability
- Flash Grab Glue Formula

You, too, can reduce costs in your shipping department because new Flash-Tite makes taping easier, faster, more effective.

New Flash-Tite is diagonally broken to give you these plus benefits:

**Greater Pliability**—surface tension is so relaxed that new Flash-Tite lies flat, molds easily and quickly around corners. Tail end curl problems are eliminated... Flash-Tite is usable to the last inch.

**Greater Wetability**—the thousands of minute water channels broken in the glue film (see photo at left) activate the glue more rapidly and completely. Better taping results.

New Flash-Tite Flash Grab Glue Formula means:

**Faster Initial Tack**—so that the rapid taper can capitalize on his speed. Yet this new formula has retained Flash-Tite's traditional quality of staying sticky for a long period.

Yes, today, more than ever—to keep taping production up and taping costs down—it's Flash-Tite gummed tape!

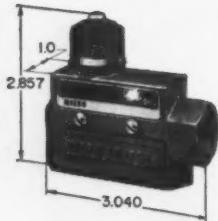


CROWN ZELLERBACH

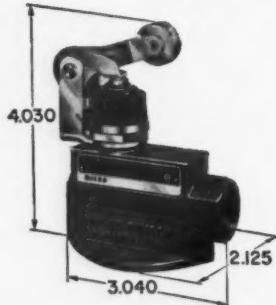


# MICRO SWITCH Precision Switches

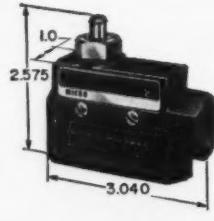
## New "E6" and "V6" Enclosed Switches available in 6 actuator designs



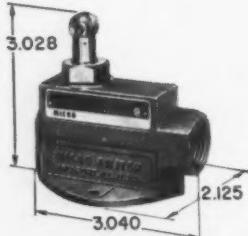
Plunger actuator for straight, in-line operating motion with controlled overtravel. Elastomer actuator boot protects against dirt and moisture.



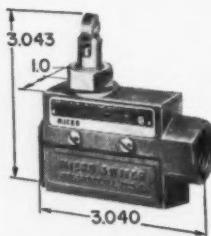
Roller lever actuator for cam or slide motion, adjustable horizontally through 360°, vertically through 225°. Elastomer actuator boot.



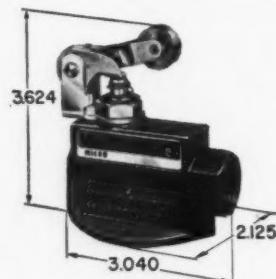
Plunger actuator for straight, in-line operating motion with controlled overtravel.



Roller plunger actuator for slow-rise cam or slide motion with controlled overtravel. Roller in line with case.



Roller plunger actuator for cam or slide motion with controlled overtravel. Roller at 90° angle to case.



Roller lever actuator for cam or slide motion, adjustable horizontally through 360°, vertically through 225°.



New switch design lets terminal screws project from top portion of the housing. Wiring is easy. Gasket and insulator are one-piece, cemented to bottom housing . . . fewer parts, no separate gasket. The new elastomer insulator-seal provides better insulation and a tighter long-life seal. New housings have thicker walls and greater strength, yet have same outside dimensions and same mounting holes as "E" and "V" switches. New hex-shaped (instead of round) conduit hub greatly facilitates tightening conduit connection. Basic switch is replaceable in all cases.

*Send for Data Sheet 145.*

**MICRO SWITCH** . . . Freeport, Illinois, A Division of Honeywell

The two-word name **MICRO SWITCH** is NOT a generic term.  
It is the name of a division of Honeywell.

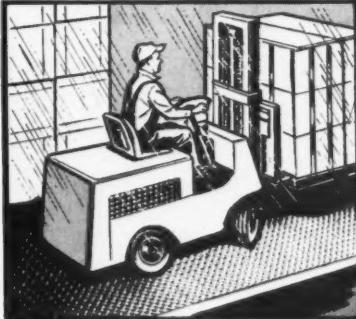
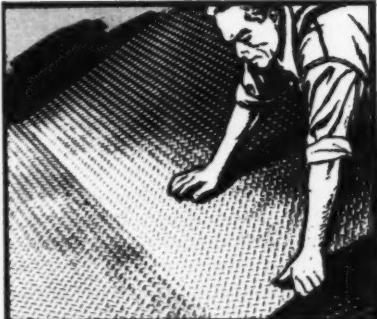


**Honeywell**  
**MICRO SWITCH PRECISION SWITCHES**

. . . for more details, circle No. 14 on Reader Service Postcard  
WESTERN INDUSTRY — June 1958

**LOW COST  
DIFFERENCE  
BETWEEN**

# **SKID**



# **NO SKID**

Eliminate high-cost accidents with low-cost Super-Diamond. Yes, A.W. Super-Diamond safety floor plate replaces DANGER with SAFETY wherever hazardous slipping conditions occur. Here's why!

- Raised steel, diamond-shaped figures give *maximum slip-skid resistance from all angles of approach.*
- Tough rolled steel construction lasts the life of the installation.
- Non-directional pattern—no matching problems—minimum waste.
- Easily fabricated for quick installation.
- No maintenance problems—cleans, drains rapidly.
- Use as independent flooring or flooring overlay.

Get complete . . . free . . . information, that may save you thousands! Write today on your company letterhead to Dept. SD-E12.

**A.W.  
SUPER-DIAMOND  
ROLLED STEEL FLOOR PLATE**

ALAN WOOD STEEL COMPANY • CONSHOHOCKEN, PA.

Other Products: A.W. ALGRIP Abrasive Rolled Steel Floor Plate—Plates—Hot and Cold Rolled Sheet and Strip—(Alloy and Special Grades)  
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WESTERN INDUSTRY — June 1958

Pattern actual size



Wherever oil, grease, or other substances raise special slipping accident hazards, we suggest a check on the special non-slip qualities of A.W. ALGRIP—the world's only abrasive rolled steel floor plate.



**MATERIAL HANDLING** and packaging know-how will be dispensed at a "clinic" to be held in conjunction with the Western Packaging & Materials Handling Exposition, to be held August 11-13 in San Francisco's Civic Auditorium.

The packaging and material handling clinic will be sponsored by the educational committee of the Western Packaging Association, said **William H. Jaenicke**, co-chairman of the biennial industrial show.

It was this same committee that supervised a course in packaging at the University of California last year. That course, open to anyone in industry and students majoring in industrial subjects, featured the practical applications of packaging and associated subjects.

"The encouraging response by industry, as well as the many advantages to industrial personnel presented by the course," Jaenicke continued, "stimulated the committee's thinking along the lines of expanding the program and conducting a similar educational forum concurrent with the Western Packaging and Materials Handling Exposition."

**NEW OFFICERS** of the Portland chapter of the American Institute of Industrial Engineers (AIIE) are:

President, **Bill Spencer**; Vice President, **Naylor Cole**; Treasurer, **Tony Dresden**; Secretary, **Jack Thompson**.

**Fred Sadewic**, former president, has been named a director.

**WESTERN KNOW-HOW** in material handling was given to Far Eastern (Japanese) M-H men by the Northern California



**NORTHERN CALIF. AMHS OFFICERS**—left to right: **Robert H. Griffin**, Robert H. Griffin Co., attendance chairman; **John Sullivan**, Columbia-Geneva Steel Div., publicity; **Ellis Woolley**, Naval Supply Center, president; **Hiram D. Smith**, Matson Terminals, Inc., national delegate; **James Bouska**, Electric Storage Battery, membership records; **Larry Megargee**, W. P. Fuller Co., recording secretary. Other officers include: **Walter C. Brunberg**, Western Pacific Railroad, vice president; **Larry Tennent**, Pacific Pallet Co., corresponding secretary; **Robert O. Swendsen**, East Bay Municipal District, treasurer; **Leo Delventhal**, Western Pacific Railroad, membership; **Ray Perin**, Ira G. Perin Co., program; **Neil Chaitin**, Hamerslag Equipment Co., bulletin; **Al Hamre**, E. C. Buehrer Associates, annual conference.

chapter of the American Material Handling Society.

The Northern California AHMS group, headed by **Ellis H. Woolley**, president, conducted basic indoctrination of material handling practices in the West. The visitors then went on plant tours in the area to witness the best and latest material handling techniques.

Other No. Calif. AMHS members who worked with the Japanese included: **Walter Brunberg** (chapter vice president), Western Pacific Railroad; **Larry Megargee**, W. P. Fuller Co.; **Al Hamre**, Buehrer Associates, and **Raymond Grassi**, Asst. Prof. of Engineering, University of Calif.

•

**FUTURE MEETINGS** of the Southeast Los Angeles Industrial Management Club include: **July 10**—Plant tour of Carrier Corp. Meet at 7:30 p.m. at 855 Anaheim Puente Rd., La Puente. **August 14**—Plant tour of Continental Can Co., 3820 Union Pacific Ave. Dinner served at 6:30 p.m. **September 12**—Pabst Brewery social.

For further information, contact **Fred Geibel**, Morris P. Kirk & Son, Inc., 2700 So. Indiana, Los Angeles. AN 2-1101.

#### ADVANCE NOTICE

. . . that the 11th Western Metal Congress and Exposition will be held March 16-20, 1959, in the Pan-Pacific Auditorium, **Los Angeles**. A technical program is being planned by national and local committees . . . more than 20 national technical societies will participate. We'll keep you posted in coming months. **Plan now to attend!**

**THE SAN FRANCISCO** Bay Area Section of the American Society for Quality Control has elected the following officers: **Allen Chop**, chairman; **Stanley Hotchner**, vice chairman; **Robert McKennan**, secretary; **Jack Brummett**, treasurer.



**SOUTHERN CALIF. SIPMHE OFFICERS**—left to right: **H. L. Waters**, RCA, executive vice president; **Noble W. Jones**, Bekins Industrial Packaging, president; **N. R. Christensen**, vice president-transportation. Other officers were announced in the May WESTERN INDUSTRY.



**PENINSULA AIIE OFFICERS**—left to right: **Bill Maches**, United Air Lines, publicity; **Richard L. Heuk**, director and past president; **Perry Stidger**, National Steel Div. of Federal-Mogul-Bower Bearings, treasurer; **Carl F. Kaiser**, Dalmo Victor Co., president; **Max Shaffer**, Lockheed Aircraft, vice president; **Clay Mathews**, Lenkurt Electric Co., secretary; **Morris Long**, IBM Corp., chairman-membership. Other officers include: **Don Grider**, Lenkurt Electric Co., chairman-constitution & by-laws; **John H. Creveling**, San Jose State College, chairman-education; **Joseph Fil**, Ampex Corp., chairman-programs; **Richard E. Michelsen**, IBM Corp., chairman-publications; **James S. Spirakis**, General Electric Co., representative to Santa Clara Valley Engineers Council; and directors—**Arthur Kromer**, Ampex Corp.; **Dan De Angelis**, Lenkurt Electric Co.; **Ernest G. Sehlmeyer**, United Air Lines.

## *Exclusive interview*

### **Western AMHS vice president outlines plans**



Hiram D. Smith  
assistant  
general manager  
Matson Terminals,  
Inc.

Western regional  
vice president  
**AMHS**

"WE NEED TO KNOW more about what's going on—and that's what we're aiming for this year," said **Hiram D. Smith**, San Francisco, who was recently elected Western regional vice president of the American Material Handling Society (AMHS).

"After attending the first Western regional conference of the AMHS in Los Angeles (held during the Material Handling Show) I was impressed with how little I, at least, know of the National advantages of the society.

"I think that the move to decentralize some of National's work down to the regional level will not only result in getting the work done faster and easier, but will also provide a better line of communication between chapters and National events. Consequently, I am inclined to favor moves which would make the regional councils stronger."

Smith listed these advantages of regional councils:

(1) Relieving the National of

SANTA CLARA AIPE OFFICERS—Harvey Zieber, Hewlett-Packard Co., president; Wes Cooley, Lockheed Aircraft Corp., vice president; A. W. Kissner, Ford Motor Company, AIPE Western regional vice president; Wayne Kennedy, Collier Carbon & Chemical Corp., treasurer.



WESTERN INDUSTRY — June 1958



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**ADAPTABILITY** — dependable operation in unfavorable surrounding conditions, therefore permitting endless design possibilities.

**ECONOMY** — total your costs, installation, operating and maintenance, and you'll find Cullman roller chain drives are more economical.

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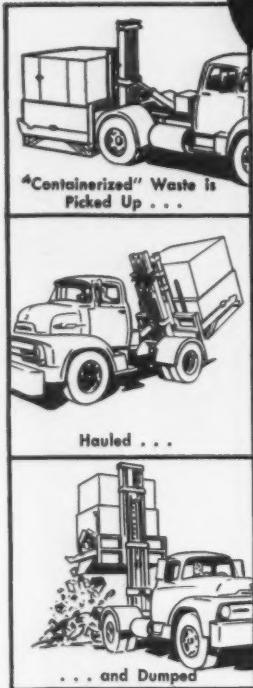
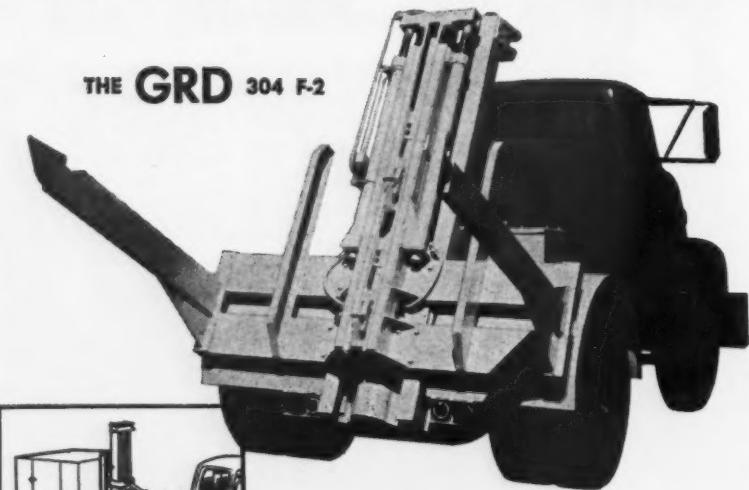
**ROLLER CHAIN DRIVES SINCE 1893**

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# Driver's Mighty Robot Arms Hoist Giant Pay-Loads of Plant Refuse

THE GRD 304 F-2



## Dempster - Dumpster GRD Hauls and Dumps "Containerized" Waste

Industrial leaders, municipalities and contract haulers cut costs by "Containerizing" refuse or waste in clean, enclosed steel containers ranging up to 15 cu. yd. capacity. Handling these big containers is "duck soup" for the GRD, which backs up, engages two lifting pins, hoists the container into carrying position and moves out. Destination for the high-dumping GRD can be a disposal area, railroad gondola car, high-side open trailer or one of the new Dempster-Dumpster Packer Trailers. This 45-yard packer trailer beats the "long-haul" problem by hydraulically compressing 130 to 140 cubic yards of rubbish into its body before being towed to the disposal area. Write today for free bulletin on the GRD.

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GRD prepares to dump into new 45-yard Dempster-Dumpster Packer Trailer

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## WESTERN MEETINGS

its tremendous work load.

- (2) Keeping the chapters more closely informed of National development, intentions and policy.
- (3) Bringing the chapters in closer contact with one another.
- (4) Minimizing the traveling expense to National conventions.

Another idea Smith stressed was that he hopes for closer tie-in with material handling at the university level. Student membership in AMHS chapters was cited as an essential step in creating a student interest in the material handling field.

"Also, we hope for increased vendor participation in our activities. In this way, there will be a better understanding of how manufacturers can serve users."

The newly elected Western AMHS vice president hopes to clarify the subject of material handling chapter participation in regional shows. If this matter can be cleared up at the National convention, it could point the way to a Western regional AMHS conference and show next year in San Francisco.

Are there plans for more chapters of the AMHS in the West?

"Yes, a chapter is forming in Portland and there are plans for chapters in Redding and San Jose, Calif. I personally plan to visit each chapter in the West and to give all assistance possible in forming new chapters."

Smith, who is assistant general manager, Matson Terminals, Inc., has been active in the AMHS during the past four years. He recently served as president of the San Francisco chapter and was largely responsible for making that chapter enjoy one of its best years.

In reporting to the San Francisco chapter on the year 1957, Smith emphasized:

"It seems to me that all of us—vendors and users alike—can benefit from membership in our society in three major fields. First are the more obvious advantages obtained locally: informative lectures, discussions, and tours and educational seminars on material handling subjects.

Secondly, by participating in a national professional organization, we receive information on nation-wide developments

**Right on your own doorstep—  
find scores of new ideas**

**to help you CUT COSTS  
SPEED PRODUCTION  
INCREASE SALES**

at the 1958

**WESTERN PACKAGING &  
MATERIALS HANDLING  
EXPOSITION**

SAN FRANCISCO Civic Auditorium,      August 11-13, 1958

In today's tough competition, packaging and materials handling can make a critical difference in your company's profits.

*That's why this is the show you must attend—the most important and timely industrial exposition in the West this year.*

Because here you'll see the latest ideas and developments from the entire packaging and materials handling fields. You'll examine new devices to package and handle faster, better, at less cost—try out, test and operate new equipment—get answers to your individual packaging and materials handling problems from engineers and technical experts representing over 125 leading manufacturers from all over the country. The ideas you pick up can save your company thousands of dollars.

**Plan now to attend.** For tickets & information, write:

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**You'll learn new ways to:**

1. Increase Product Sales Appeal
2. Reduce Labor Costs
3. Speed Processing and Production
4. Eliminate Bottlenecks
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**ECONOMY, UTILITY  
AND CONVENIENCE**

NOW,— and for the life  
of the building!

# pressSwitch

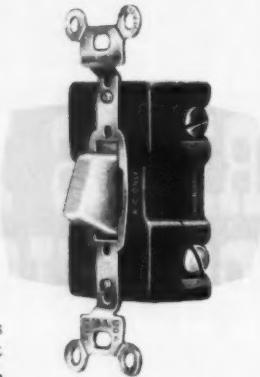
It's time for the switches... and "Presswitch" is your choice for smooth, dependable fluorescent lighting control. From the installation word "go", throughout the life of the building, "Presswitch" is **"quality you can put your finger on".**

"Presswitch" saves installation time, labor and materials. A thru-connection eliminates the usual ground wire splice and the time-consuming cost of taping the splice or inserting a wire nut. Wires normally spliced are securely joined by inserting them under a screw terminal designed for the purpose. (See photo at right.)

Once installed, "Presswitch" looks as smooth as it acts. It's "on" or "off" with the slightest press of the finger or touch of the elbow, providing greater operating convenience wherever it is installed.

Ask for "Presswitch" in single pole, double pole, three-way and four-way, with ivoire or brown nylon button. It operates in any position, fits standard boxes, utilizes standard wall plates.

For Complete Information, Write



CAT. NO. 1251-I  
15 amps., 120-277 volts  
Single pole A.C. "PRESSWITCH"  
with thru-connection



SAFE, SECURE  
THRU-CONNECTION  
SPEEDS AND SIMPLIFIES  
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**WESTERN  
MEETINGS**

in education, awards, employment opportunities, and applications of methods and machines.

But the most significant benefit is hard to put into words. It is that benefit which derives from an association in both a professional and social climate with others having like interests—a climate aimed at developing a free exchange of ideas between members—vendors and users alike. It is an atmosphere which recognizes our standing as professional specialists in the materials handling field and which aids in the solution of our mutual problems."

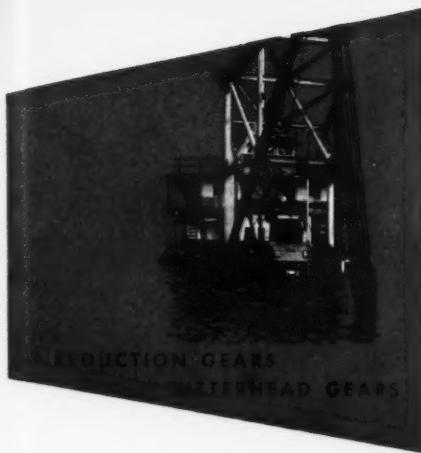
**THE NORTHERN CALIFORNIA**

chapter of the Society of Industrial packaging and Materials Handling Engineers will hold a social evening in honor of its tenth anniversary on June 26. Sabella's Restaurant at Fisherman's Wharf will be the scene of dinner and dancing. Wives, sweethearts and non-membership guests are invited. Applications for tickets for non-members should be made to **M. O. Richter**, Kaiser Aluminum and Chemical Corp., 1924 Broadway, Oakland, California (CR 1-2211).

**NEW OFFICERS** of the Material Handling Society of British Columbia include: President, **Albert Hunt**, Vancouver Salt Co.; Vice President, **Capt. Dave Roberts**, Union Steamship Lines; National Director, **Louis Savard**, Crown Zellerbach Canada; Secretary, **Herb Schon**, Westminster Paper Co.; Treasurer, **Stam Prokop**. Committee leaders are: Program, **John Janzen**, Canadian Collieries; Membership, **William Williams**, Rudel Machinery; Publicity, **John Madill**, Yale and Towne.

**S.F.-OAKLAND AIE OFFICERS**—left to right: Richard Seashore, United Air Lines, director; Jim Buckwalter, Butler Mfg. Co., director; Frank Taylor, Oliver Tire and Rubber Co., president; Warren Wiesenfeld, Coast Mfg. and Supply Co.; Norm Karvelis, Columbia-Geneva Steel Div., treasurer.

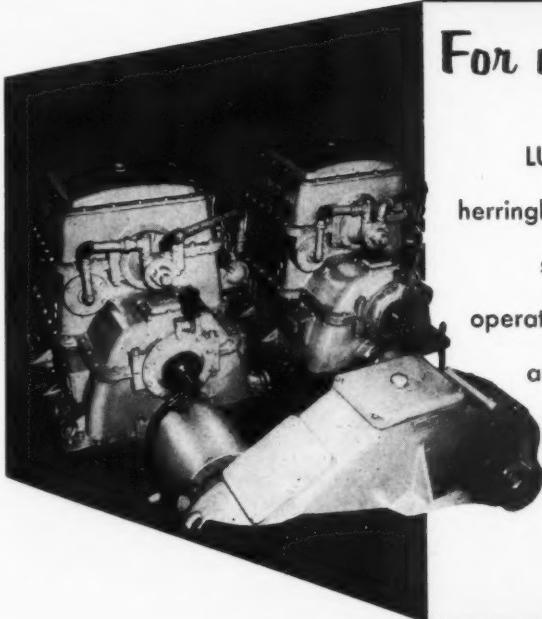




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Warm weather and inadequate air circulation work hand in glove to *cost you money!* When the air just "hangs," employees lose energy, slow down on their jobs. They become fatigued even when other working conditions are the best that can be arranged.

It is with this understanding that leading Southern California firms have installed COLT ventilation systems—the low cost, highly efficient system that *keeps air moving freely.*

A few recent Southern California installations: Cannon Electric Company, Los Angeles . . . Electra Motors, Inc., Anaheim . . . Pioneer Diecasters, Inc., Los Angeles . . . Nardon Manufacturing Company, Alhambra . . . Aldine Printing Company, Los Angeles . . . H. L. Whiting Company, Los Angeles . . . McDowell and Craig, Norwalk . . . Handy and Harman, El Monte. . . OVER 32,000 INSTALLATIONS, ALL OVER THE WORLD.

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- Full clear opening permits maximum possible passage of air

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Adjustable louvers 100% rainproof when closed

- No operating costs

—built-in hand-operated control, no power required

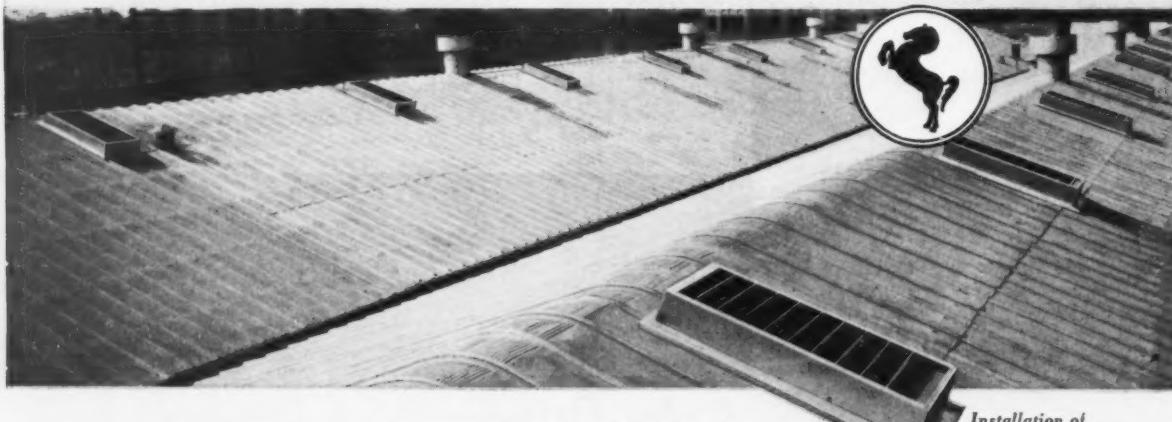
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—can be installed in any type of factory roof, weight just 23 pounds

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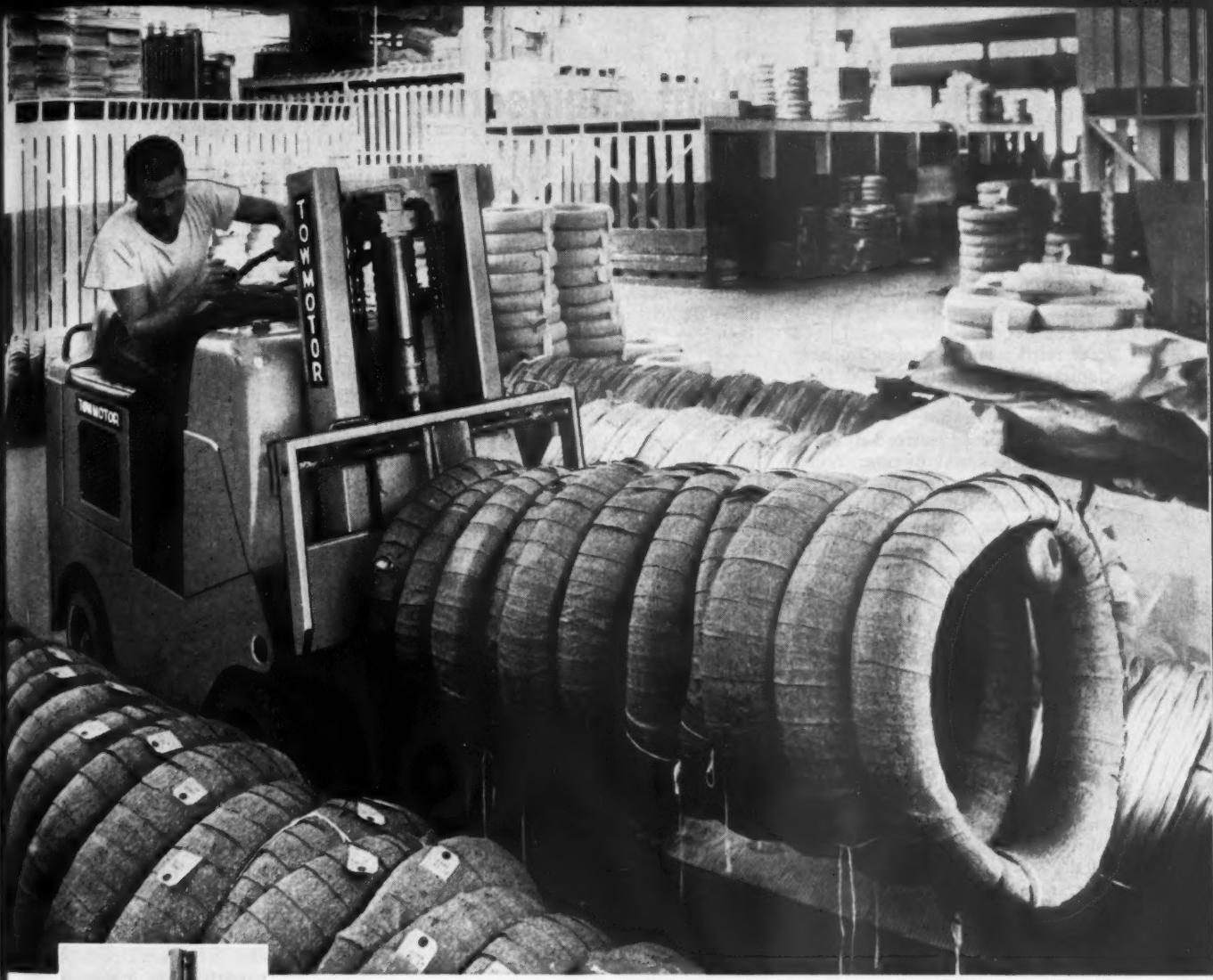
*A wide variety of ventilators to suit every need.*

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Opening Adjustable  
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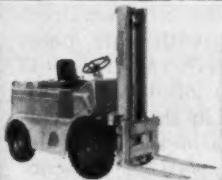
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WESTERN INDUSTRY — June 1958

... for more details, adv. opp. pg., circle No. 22 on Reader Service Postcard →



*Today's industries need Towmotor Continuous Operation*



New functional body design introduced in the Towmotor "Pace-Maker" Series contributes greatly to trouble-free Towmotor Continuous Operation. New Model 680-P is shown above.



New "easy-off" hinged hood tilts back with seat — makes quick, convenient access to entire engine compartment possible—and without tools! Swift check-ups assured.



New planned-comfort features like adjustable off-center seating, extra leg-room under cowl, and easy-reach controls increase the efficiency of Towmotor operators.

## Use Towmotor **Continuous Operation** to Lower Your Production Costs!

Why are Towmotor fork lift trucks known world-wide for their ability to *keep on the go*—working around the clock to move goods faster through *every department*—increasing productivity and reducing production costs?

Towmotor operators can answer that. They may not say "*advance engineering*"—"*new functional design*"—or "*maintenance-free operation*"—in so many words. But that's what their praise adds up to when they talk about a Towmotor.

**Leaders for 39 years in building  
Fork Lift Trucks, Tractors and Carriers**

**TOWMOTOR - GERLINGER**  
THE ONE-MAN-GANG

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You'll also hear lots about "*service that's there when it's needed!*" Over the years we have gone to great lengths to locate Towmotor-authorized service and parts depots close to every user. This helps to maintain the *continuous operation* of Towmotor fork lift trucks that is especially advantageous today. For complete details, send for our new "Pace-Maker" Booklet #SP-23.

- Send free Towmotor Booklet SP-23  
 Send free Certified Job Studies relating to our business which is:



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**E**XPANDING Western plants must find the best and most economical way to step up operations. Well, here's how one Western firm plant-engineered efficiency and quality to record levels and achieved these results in its finishing department:

(1) Jumped output two to three times;  
(2) Produced faster and better with a smaller crew on one shift than a crew of 100 formerly turned out on three shifts;  
(3) Obtained desired quality in a single series of operations . . . whereas a part previously might have had several reruns through the cycle. Under the old system, some parts rejected for finish reasons would accumulate so much paint it had to be stripped off for a fresh start. The plant? Ampex Corp., Redwood City, Calif.—one of the fastest growing plants in the West. Ampex (with 1,800 employees) manufactures precision magnetic tape recording equipment. Standards for finishes are as high as for the quality of the electronic components. The standards are as rigid even for cabinet surfaces that are concealed.

The company was having difficulty in achieving desired finish quality with its old setup. The paint department was located in a 4,500-sq. ft. area in one of several buildings. It was considered a bottleneck, since rising production volume couldn't be handled with original facilities. Then there was the matter of obsolescence and the inefficiencies that show up in time in any production operation.

Now—at least for the foreseeable

**Right**—General view of preparation and finishing-up areas in paint finishing department. Note conveyor in background emerging from paint room.

**Below**—Conveyor going through paint room first reaches priming booth (foreground), then after flash-off passes to finishing booth (background).



## Plant engineering production, quality to record high levels

able future—the ideal has been realized in a new 9,000-sq. ft. paint department in a new building. Here are some of the features of the installation:

Five heated paint circulating systems feed up to seven paint spraying stations at one time, when peak loads are encountered. Work is 100% conveyorized on a 600-ft. Rapistan variable speed overhead chain which can accommodate 600 items at one time.

The paint room is hospital-clean and has a highly filtered air system. Control over the painting and baking cycle can be obtained by the proper combination of oven temperature and baking time, both of which are adjustable over a wide range.

Conversion of the power washer and various chemical tanks from gas to steam heat have improved regulation and reduced noise and dirt problems. Besides painting, the new department also provides space and facilities for wet and dry sanding, alodine, caustic dip treatment and silk screening.

A high degree of flexibility has been engineered into the system, which may be termed a sort of expanded job shop method of production.

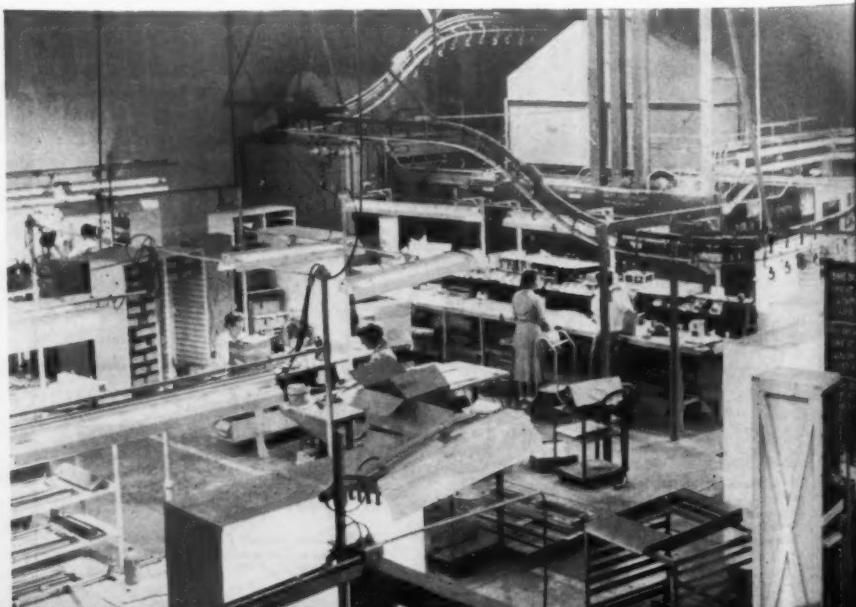
The types of materials finished include aluminum die and sand

castings, machine-turned and formed parts, welded assemblies, fabricated aluminum and steel parts. From one to 500 units comprise a run, with the average about 50 units. Sizes range between one-half by three-in. flat metal to 26 x 20 x 3-in. parts. Multicolor and special parts which are to be masked are handled up to the masking operation on the conveyor line, then through a batch painting booth on carts.

A normal finishing cycle comprises the consecutive steps of phosphate coating, dry-off, cooling, prime painting, surface coating, baking, finish coating, baking, surface preparation, finish coating, baking, inspection, silk screening and wrapping.

Certain parts are diverted into the plating and cleaning section, which has seven 3 x 3 x 4-ft. tanks at 100-190 deg. F. Here they may be pre-cleaned for heliarc welding, or subjected to a chemical film coating (alodine).

A five-stage power washer is the first process for those parts that are hung on the conveyor line. Parts here are washed, rinsed, coated with zinc phosphate, re-rinsed and fixed, at temperatures of 140-190 deg. Time duration in the washer, as in other phases of the cycle, depends on the speed of the con-



**You can use the ideas and equipment in this article  
to step up your operations . . . like this plant did in its  
finishing dept. . . .**

veyor. Normal speed is five ft. per minute; range is four to twelve fpm.

After looping through the power washer, parts make a single pass through a drying oven, usually at 180 deg. for five minutes. To bring temperatures down to optimum spraying heat of 130-135 deg., parts go through a ten-minute cooling loop on the conveyor.

Actual painting begins with application of zinc chromate or surfacing primer at a two-man spray booth in the paint room proper. A two-minute flash-off period follows before parts reach an 18-ft. spray booth with three stations, where finish is applied against a water curtain. Spray equipment was furnished by the De Vilbiss Co.

Masked parts and others which need special finishing, such as the application of a customer's paint, pass to a two-man 14-ft. batch booth, then on to an 8 x 8 x 24-ft. batch oven normally maintained at 250-300-deg.

This oven has doors at both ends, so that batch carts can be loaded in the paint room and unloaded in the wet-sanding-inspection area. Riding on rails in the floor, carts can be removed without employees having to enter the hot oven.

Next stage in normal produc-

tion is entry of parts into an 8 x 8 x 100-ft. main drying oven. Temperatures up to the 350-deg. range are remotely controlled by recording-type temperature controllers. Temperatures are held to within plus or minus two deg. A three-inch blanket of insulation around the oven minimizes heat loss.

Parts loop through the main oven for a total run of 200 ft. Thus, for example, if the conveyor speed is set at five fpm., baking time is 40 min. A heat of 275 deg. is typical for many parts going through the main oven.

A normal cycle is completed after parts are removed from the conveyor at the end of the baking period, inspected and passed on to the sanding area. Accepted parts are silk screened, some with a circuit diagram, wrapped and sent to live storage.

Routine production requires the use of four major colors and one standby color. Finishing materials are zinc chromate primer, surface primer and enamel. These are pre-formulated by the vendor so that no in-plant processing is required. Paint is pumped directly from 50-gal. drums in the paint supply room, and thinner via separate lines to all spray stations. Paint is supplied by W. P. Fuller & Co.

Paint formulation is based on

**Plant Engineering  
and Maintenance Issue**

a spray temperature of 180 deg., maintained by a circulatory hot water system working through each individual paint spraying station. Specially-constructed delivery hoses distribute paint from heat exchangers to stations.

Hot water from the exchangers is pumped to and from spray guns parallel to the supply lines to hold temperatures. Paint supply lines are made of half-in. black iron tubing with all bends and turns formed to assure an uninterrupted flow of material.

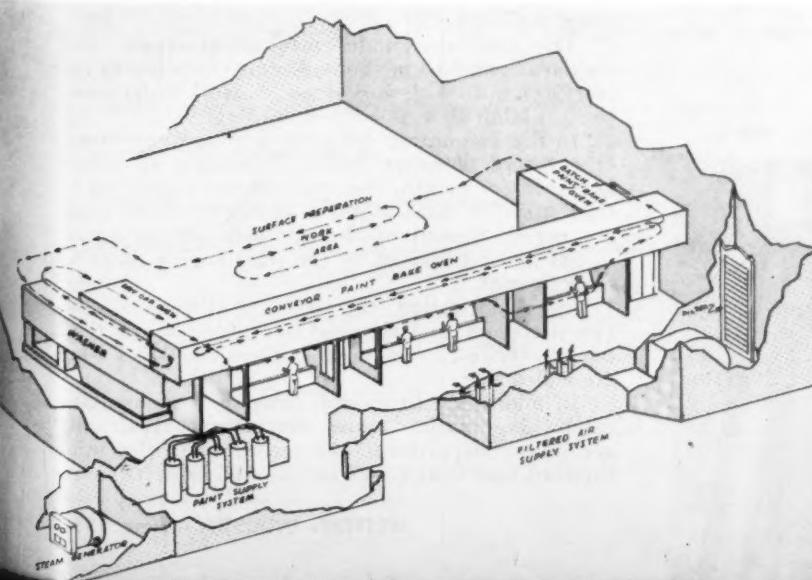
The paint room is conditioned and pressurized.

Conveniently-located stop stations can completely shut down the entire system in the event of emergencies. There are also five strategically-placed conveyor stops. The area is surrounded by a one-hour fire wall and protected by sprinklers, emergency blankets and extinguishers of both the CO<sub>2</sub> and dry chemical types. Materials are retained in approved safety containers. Individual electric motors are equipped with lockout switches.

The installation includes 34 electric motors from one-half to 30 hp., with a total of 100 hp. All motors are controlled from a single master panel incorporating all contactors and starters. Electrical distribution from the panel throughout the department is via overhead distribution gutters and branches.

Planning and construction supervision by Ampex executives and engineers is believed to have resulted in an overall construction savings of approximately 20%. The complete department represents a cost of about \$160,000.

**Left—**Schematic cutaway view of new Ampex paint department. Note simplified work flow and efficient arrangement of equipment. Paint department is in new 9,000 sq. ft. building. **Below—**Workmen at wet sanding tables in preparation area put finishing touches on parts after baking cycle.



# "Cut lift truck costs"



*says Lew Goldenson,  
Yale & Towne  
Branch Mgr.*

## "by keeping daily maintenance records"

**WE'RE** selling cost reduction and that means money," Lew Goldenson, branch manager at the new \$2.5 million Yale & Towne plant at San Leandro, Calif., said, "and sales for the first four months of 1958 are up 241% over the same period in 1957," he added.

As he leaned back in his chair and eased his legs from under his desk, a shaft of light from the late afternoon sun cut across a pile of buff colored cards bringing them into sudden prominence. As the key light in a theater picks one actor from a stage full of players, the cards were set apart from a surrounding mass of papers cluttering the desk top.

Lew liked the effect. When he spoke his voice was charged with enthusiasm. The words came quickly.

"We call them **Monthly Lift Truck Operating & Maintenance Record Cards**," he said, "and they're such time and money savers that we've built our whole selling technique around them."

He slid the top card across his desk. Its design was simple: vertical and horizontal lines making boxes descending under the headings "**—date —shift —gas. gals —oil qts. —meter reading**." On top of the card were spaces for the company's name and plant, truck number, make and month. On the reverse side was space to record mechanical repairs.

Nothing special.

"Nothing special?", Lew exploded, "let me tell you these cards can save lift truck owners a mint of money."

How?

**"Operating efficiency starts in the driver's seat . . ."**



**"Instruments work for you — look after them . . ."**

"It's hard to believe," he continued patiently, "but I've one prospective client with a fleet of over twenty trucks who never kept any kind of individual maintenance records. Oh," he added quickly, "he's got a mass of figures, but all kinds of equipment is packed together and there's no way of telling how much a certain lift truck cost him over any given period."

The card on the desk caught Lew's eye, snapping his attention back to the original question. "These maintenance records," he said, "do just this: they provide a complete but simple method of accumulating all operating costs per hour of actual use; they pinpoint abnormally high costs and provide comparative operating time and cost records which result in lower hourly operating costs."

Lew was excited. "Look how simple it is," he said. "The card is slipped inside this plastic cover and attached to the lift truck. Each day the truck operator records the date, shift, meter reading, amount of gasoline and oil put into truck at beginning, during or end of shift.

"The maintenance man, under **lubrication**, records the date, shift, meter reading, time-in, time-out, oil, grease and filter, labor time, and work order authorizing the work.

"The mechanic, under **mechanical repair**, lists time truck arrived in shop . . . time truck leaves . . . brief description of work done . . . work order number . . . labor time and meter reading.

"In the accounting department," Lew continued, "the record of meter readings (reading at end of last shift for month, less readings for beginning of first shift for same month), and gas and oil used, are noted. Record of the quotients of the totals of gas and oil divided by the total engine hours is then figured.

Under **lubrication**, the record of differential between time-in, and time-out . . . plus total of time out of service . . . oil, grease, filters and labor time are added up.

"In addition," Lew said, pausing a moment to catch his breath, "under **mechanical repair** the accounting department can record the differential between time in and time out, as well as parts costs,

on each work order and record in corresponding Parts Cost column, also totalling labor time spent in mechanical repair."

He pointed to the summation section on the card. "Here," he said, "the accounting department can record total quantities of gasoline, oil, grease, maintenance labor and mechanical labor and list current costs and rates for each item. Total costs can then be recorded based on number of units multiplied by unit costs or hourly rates. The accumulated total costs can then be divided by the number of recorded engine hours for the month to arrive at the average cost per engine hour."

Lew stopped. The afternoon was older now and light from the venetian blind cut horizontally across the cool shade of the office.

"That's the figure we want," Lew said with quiet emphasis. "If we know the cost per engine hour of operating a lift truck, it's easy to determine the exact point in time when it's costing the owner more to run old trucks than to operate new ones."

He got up and reached for a file of figures in a

**Easy to keep Monthly Lift Truck Operating & Maintenance Records pinpoint costs.**

For your card, circle No. 350  
on Postcard, page 77.

COMPANY.

PLANT

## **MONTHLY LIFT TRUCK OPERATING & MAINTENANCE RECORD**

**TRUCK No.** \_\_\_\_\_ **MAKE:** \_\_\_\_\_ **MONTH** \_\_\_\_\_ **19** \_\_\_\_\_

**MAKE:**

**MONTH**

-10-

**DEPT.**

**TOTALS**

**ENGINE HOURS** \_\_\_\_\_

**GASOLINE** \_\_\_\_\_ **GALS.**

OIL \_\_\_\_\_ QUARTS

## **GASOLINE**

**GALLONS PER ENGINE HOUR**

**OIL QUARTS PER ENGINE HOUR**

## LUBRICATION

# Material Handling Show



Don Kuehe, Phil Krasnow, Ken Porter at Allis Chalmers display.



Hyster men group around trucks at their outdoor exhibit.



Bill Huggins, Jayson Young and W. D. Peppard at Mathews Conveyor booth.



Jeffrey Mfg. featured foot-easer.



Wesley Mitts and F. M. Ison of Saginaw Steering Gear Div.



Merle Fate shows off Payloader.



Ed Keisson demonstrates R & K wheels.



G. Dickens talks up Aeroquip strapping.

Dick Chinn and Milt Tuell of Massey-Ferguson.

Bob Lohman and Jim Old discuss Cargotainers.

Rolf and John Donahower at Standard Conveyor.



# Pictorial Review



John Mayfield, J. McEntee, Clyde Dean and Jim Cunningham of Yale & Towne.



Stephens-Adamson booth with F. M. Glaser



Erie Hays gives pitch for Dravo bulk material handling.



R. Bartlett, J. Angle, O. Sandstrom, R. Weinzapfel, F. Barber, B. Platte and Jack Taylor with Harnischfeger.



Wm. Dreyer and Gordon Olson for Easterday



Louden equipment featured at Alden Equipment Co. booth. That's Martin Renwick on duty.



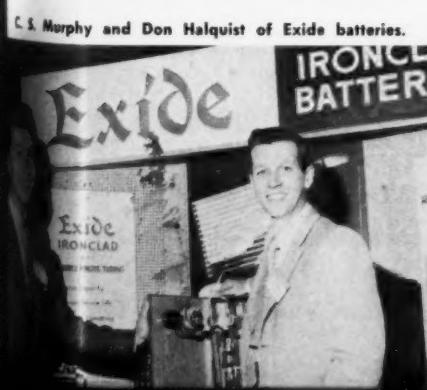
C. F. & I. booth spotlighted baskets and wire slings.



R. McCalley, Frank Burnaby and B. Atkinson (all of Burnaby and Williams) display Gerlinger line.



G. De Broeck, F. Butler, L. Eble, Jr. for C & D Batteries.



C. S. Murphy and Don Halquist of Exide batteries.



R. Bickerstaff and General Conveyor exhibit.



Clark Equipment Co. squeeze lift in action.

selected production and maintenance ideas for Western plant operating executives

## Here's how to prevent time-loss by using efficient steam traps

**OVER 900 PARTS** that could go on the blink!

You can just see maintenance personnel sweating. But brows are cool and the maintenance pulse steady at this Bay Area refinery where 913 steam traps are working around the clock.

Don't need to tell anyone that ordinary steam traps need maintenance. Well, these traps aren't ordinary. Their simplicity of construction, and the fact they are made of stainless steel, have made maintenance a seldom time thing.

Here are some unique features of these traps that are installed on coils, steam lines, steam tracers, heaters, etc., at steam pressures from 10 to 600 psi.

(a) The trap is made so that it can be used at any steam pressure from 10 to 600 psi.

(b) The trap has a single moving part consisting of a hardened and heat-treated disc of stainless steel approximately  $\frac{3}{32}$  in. thick and approximately  $1\frac{5}{16}$  in. in diameter (for  $\frac{1}{2}$  in. TD-50 trap; other sizes have slightly larger diameter discs).



Made to be used at steam pressure ranging from 10 to 600 psi., it works around clock.

(c) The dimensions are extremely small in comparison with other conventional steam traps, a  $\frac{1}{2}$  in. TD-50 taking up only  $2\frac{3}{4}$  in. in the pipe line.

(4) The body is machined from solid bar stock stainless steel and the seating surfaces are heat treated and hardened.

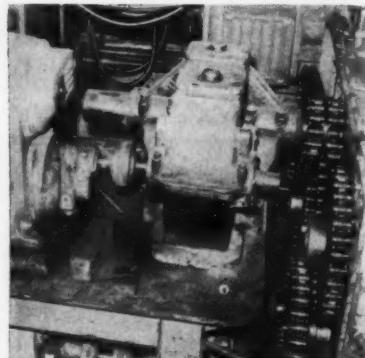
All of these above features of the Sarco Co. steam traps are important in cutting down high costs of equipment maintenance.

## Four 25 hp. motors, special couplings solve power problem

A REMARKABLE EXAMPLE of how a power transmission application boosted output of a pipe rolling and welding mill over 100% is seen at the Beall Pipe & Tank Corp. in Portland.

The machine involved is the No. 2 tube mill that formerly had a maximum capacity of 10 ft. of pipe per min. In this operation, pipe is fed into the mill as a flat steel strip, goes through rollers for forming and curving, and passes through the final forming stage where it is ready for welding by an electric resistance welder.

At the output of the mill an automatic cut-off saw cuts the pipe into specified lengths to complete the operation. The mill



Dodge flexible type couplings combine with motors and reducers to boost output at Portland pipe rolling and welding mill.

is capable of rolling pipe with diameter ranges from 6 to 16 in. and with wall thicknesses of from  $\frac{5}{16}$  in. to 12 gage.

Now, when it was desired to increase capacity of feet per minute output, the answer was to increase the power. But space was a problem in adding power, so the installation had to be compact as possible.

The final installation solved all problems. It consists of four 25 hp. U. S. Varidrive motors connected by Dodge flexible type couplings to four 114D Lufkin herringbone reducers.

The reducers have a ratio of 29.4 and are rated at 41.4 hp. at 870 rpm input. From the reducers the drive to the mill is through  $2\frac{1}{2}$ -in. pitch Morse roller chain running on sprockets manufactured by J. W. Minder Chain and Gear Co.

Additional power is furnished by four 10 hp. U. S. Varidrives. This additional power on the mill has raised the capacity range of its output of pipe from the former 10 ft. per minute to 20 to 60 ft. per minute.

continued on page 56.

A Special



Report

# WESTERN ROOFING



## Ask Yourself This

- ✓ WHAT'S THE CONDITION OF YOUR PLANT'S ROOF?
- ✓ HAVE YOU A RECORD OF ROOF MAINTENANCE?
- ✓ WHAT DESTROYS A ROOF QUICKER THAN ANYTHING?
- ✓ NAME FIVE DIFFERENT TYPES OF ROOF SURFACES
- ✓ HOW OLD IS THE ROOF ON YOUR PLANT?
- ✓ CAN ROOF SURFACES BE LAID IN A RAIN STORM?
- ✓ WHERE DO LEAKS MOST OFTEN SEEP THROUGH?

## Keep Your Roof Up and Overhead Down

A ROOF is like a woman—take it for granted and you're in for trouble.

Especially in the West.

We've got a climate that varies from seeping rain to blistering heat, with snow, fog and smog thrown in for good measure.

So, you like it?

All right, but you aren't out in it night and day, rain or shine; . . . sweating, baking, freezing and choking—but your roof is.

Ever think of it that way?

And your roof has life—or it did when it was built. Has it now?

If it's dead, give it a decent burial and select a worthy successor. If it's dying, get up and find out why.

If it's healthy, keep it that way by reading what WESTERN INDUSTRY editors learned from the men who know . . . and the roofs themselves.

# What Can Happen?

## PLENTY.

And when you least expect it. On a morning last fall a Western plant engineer — Ted R. — hurried toward his plant. Earlier, his wife had warned that the radio forecast rain. The sky, normally a brisk blue, was banked with clouds which spread in a gradual grey overcast toward the horizon.

By 8:30 a.m. the rain was a solid sheet of water, with no promise of a let-up.

Inside it was warm and dry. The whistle blew and as power surged through the plant, machines took on a steady hum of activity.

Ted walked down the white-edged aisles toward his office at the far end of the plant, subconsciously checking the hundred and one details which were so much a part of his life.

Maintenance saves money.

The times he'd heard that. And after so many years in plant engineering he knew it was true.

Suddenly he stopped short.

To one side of the aisle, water dripped with a quickening pitter-pat into a bin of powder waiting to be pressed into plastic switch covers. With a new sense of fear mounting inside, he struggled to shift the bin. The powder sucked at the moisture like a thirsty sponge. Looking up he saw the water came from a leak in the roof. As he watched, the roof broke out in a sweat. Drops became elongated as they quickened toward a point over the bin.

There they dropped.

Calls from other parts of the plant flooded into Ted's office. All reported leaks. Water dripping in the west aisle, over the punch presses. Not much water, just enough to set rust eating into machined parts, and enough to have to shift equipment out of the production pattern.

## Events happened quickly . . .

When the rain eased up, Ted hurried to the roof, realizing as he struggled up the stairs that he hadn't been up since the previous winter. There had been no need.

Now the rain had stopped.

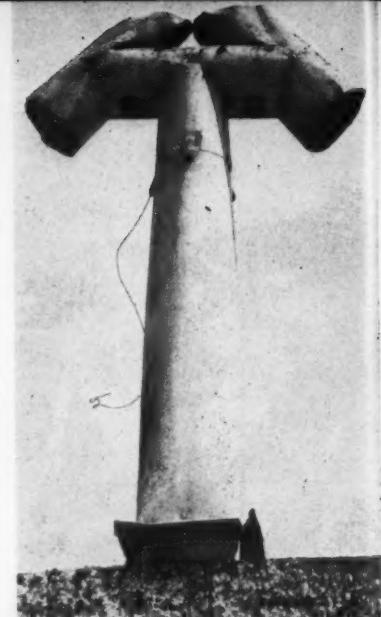
The roof, a flat-deck with half-round construction over the heavy presses, was filthy. It looked like a battle field. Debris of war was scattered on its charred, black surface.

Steam began to rise steadily as the sun burned a hole in the carpet of cloud overhead. Dry patches of roof emerged, glistening, only to leave scattered pools where the roof had settled lower than its surrounding surface.

A closer look showed the apparently smooth surface was a network of tiny cracks and splits. The underlying coating and mineral surfacing were blistered where the gravel surfacing had been worn away.

On the northeast corner, where a pile of lumber had been stored earlier that summer, the lapped edges of felt had been torn loose . . . and constant heat from the sun had curled back the asbestos edges.

At the intersection of the roof deck with the vertical walls, fractures had caused base flashing to buckle. Now what had been dried-



out felt absorbed water hungrily like blotting paper!

The counter-flashing, a strip of metal anchoring the flashing to the vertical walls, had sprung loose leaving a rim of pale crumbling mortar.

Constant expansion and contraction had cracked the parapet and fire wall, and edging strips at the eaves, while cracks along the metal gravel-guard gaped open like raw wounds. Where the ventilators grew out of the roof like a line of soldiers stiffly at attention, the surrounding roof edges had shrunk away from the metal. Gutters, once a free-flowing U, now were piled with refuse.

Ted began to fidget with gnawing doubts.

When had the roof last been repaired? Where? By whom? And to whom could he go for dependable advice?

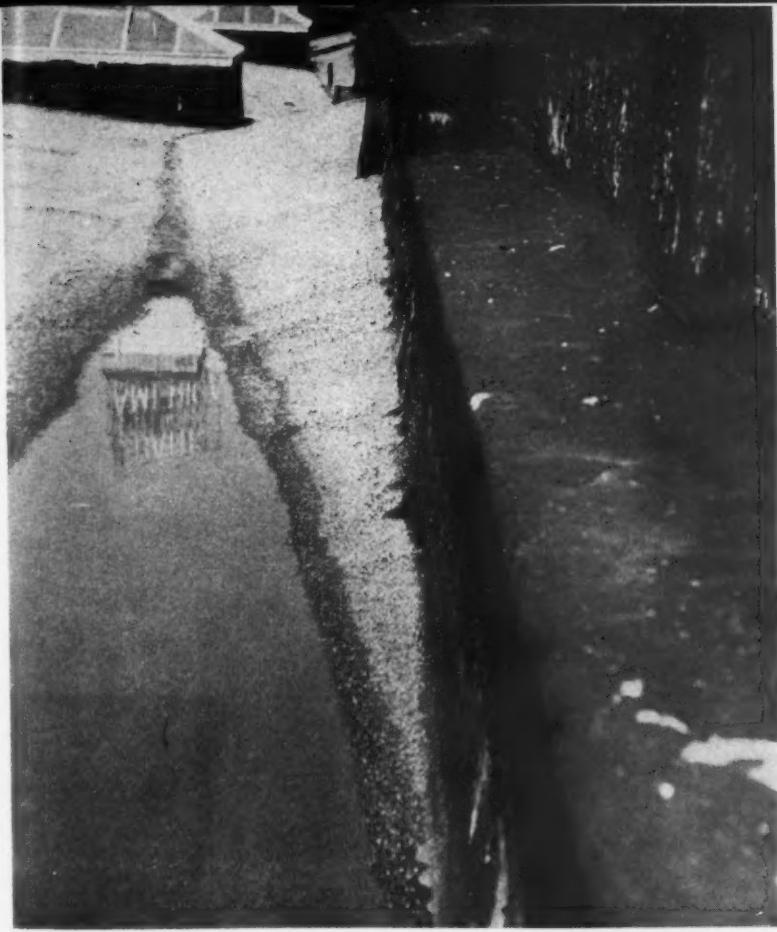
Repair bids came quickly, but all of them had a sickening uniformity—nothing could be done under \$10,000.

In the following months, Ted became part of a new world. Asphalt, tar, asbestos-sheet, galvanized-steel, aluminum-coated steel, concrete, and plastic panel roofs filled his days and invaded his nights.

He learned the danger of sunlight; that gravel whipped by the wind can be like sand-blasting a roof, and that the chemicals in smog exist on a diet of roofing surfaces.

He became a walking manual on roofing—a portable electronic computer, eating questions and pausing only briefly to digest them before spewing out the answers.





Questions? . . .

## Why Do Roofs Wear Out?

### HERE'S WHY . . .

Bitumen should be soft like the inside of candy. But the sun turns it into peanut brittle.

Wind whips grit, dust and cinders into a sand blast.

And heat flow from inside the building inches through the roof deck drying out the felt, while alternate wetting, drying, freezing and thawing splits water-proofing wide open.

And there are other reasons.

Walking on it . . . using it as a dumping ground . . . as storage space . . . or the use of improper equipment for removal of snow and ice.

Even rotting deck sheathing can rupture the roof cover. And nails work up through a wood deck puncturing holes as they go.

Badly constructed parapet walls, skylights, and the omission



of cant strips to break the 90-deg. angle at the junction of the roof deck with vertical surfaces, all play their parts.

Following last year's big wind-storm **George Caso**, owner of the A. B. C. Roofing Co., Inc., of Westminster, near Los Angeles, received over 1,500 frantic phone calls in 24 hours from homeowners wanting anything from minor repairs to a new roof.

But the worst damage comes from improper application of roofing material. Not enough mopping between plys, carelessly installed flashings or just plain negligence can be the forerunner of years of trouble.

Some shoddy roofing contractors have been known to hide behind bright neon signs. A good first step is to contact somebody whose job it is to give advice, like **C. J. VanTil**, Executive Manager of the Western Asphalt Roofing Manufacturers' Association.

Look for a contractor who is established in your community and who has proved he can do a good job. It's important, because if that roof gets put on the wrong way you're going to feel the effect on your bank-book.

# New Roofs

## THEY'RE EXPENSIVE

But sometimes necessary, and you've got a choice . . .

In the West the design of industrial building is toward "the long, low look." The assembly line, symbol of the speed at which we're developing, requires a horizontal rather than vertical plane.

The clean-cut, simple curtain-wall and parapet construction, so much a part of the Western scene, has increased the popularity of the flat built-up roof. It costs less and it's more functional.

Look at these examples . . .

### Coal-tar:

Naturally enough, the first thing a building must be is waterproof. And a coal-tar pitch roof, correctly applied, forms a seamless covering where joints can't start to leak.

It's a little more expensive per square than asphalt, but alternate layers of coal-tar pitch and tarred felt may prove less costly in maintenance in the long-run.

### Asphalt:

Can be laid on wood, concrete or gypsum decks.

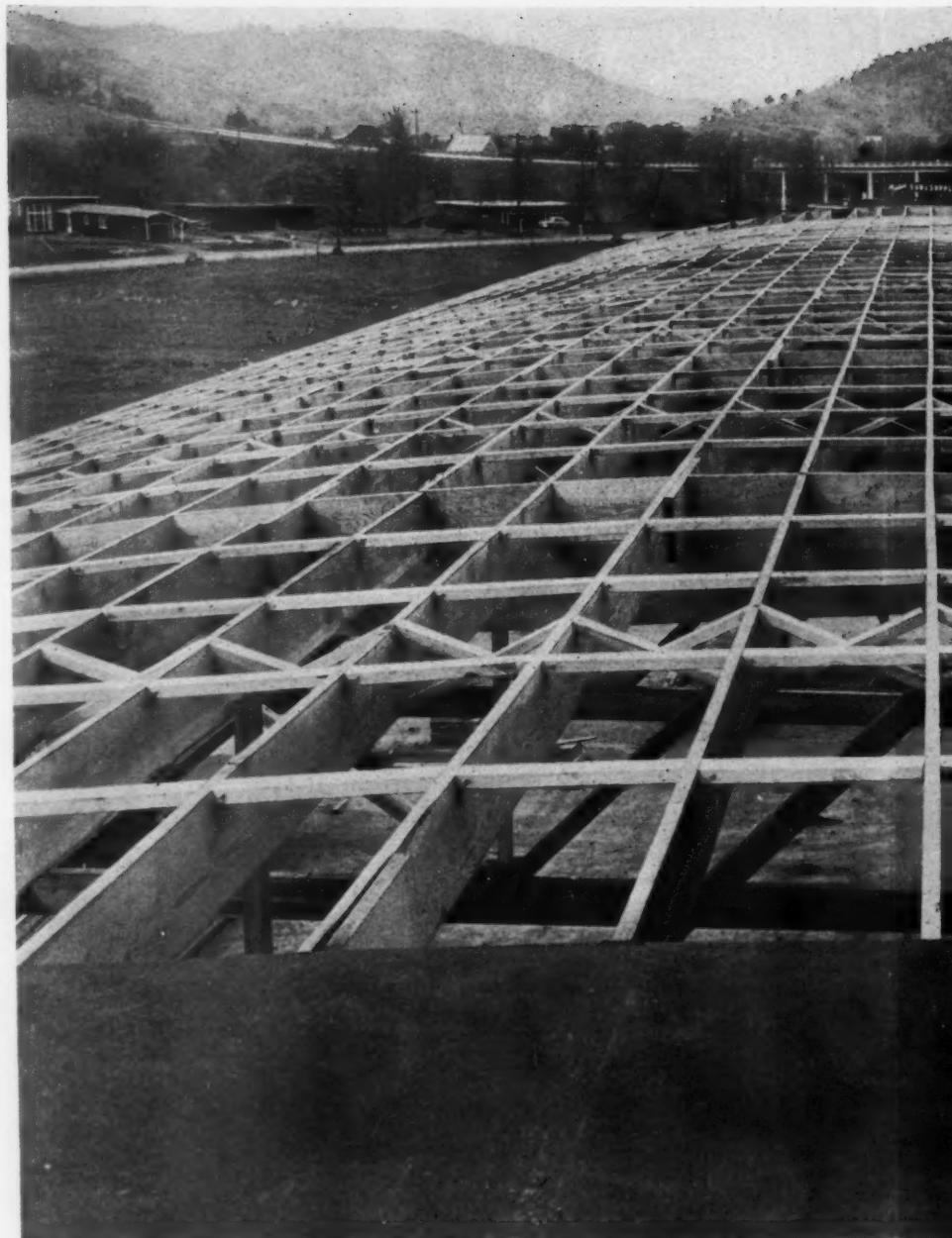
The lasting kind consists of five layers of 15-lb. asphalt felt with a 30-lb. asphalt mopping over the insulation. An asphalt flood coat of 60 lbs. per 100 sq. ft., topped by a gravel surfacing and with three layers of asphalt mopping, completes a roof which should last a good 20 years. . .

Certainly, the Ford Motor Co. is expecting it to last that long on their assembly plant at San Jose.

### Aluminized-Steel:

Aluminum-coated steel roofs are proving their worth. To steel's basic strength has been added aluminum's ability to withstand atmospheric corrosion . . . and it's worth is being proved at the Armeo Drainage & Metal Products, Inc., plant at Davis, Calif.

However, the same tests showed under-water characteristics are poor, although its low coefficient of thermal expansion ( $6.7 \times 10^{-5}$  in. per inch degree F. over the cold winter to hot summer range,) makes up for this



**THE SKELETON** is just the bare bones for a covering that will keep you dry, cool and

weakness to some extent.

Cost-wise there is a saving as compared with aluminum on anywhere from 29% to 45% on a thickness to thickness basis.

And because it's aluminized you don't have to paint it.

### Long-Span M-decks:

These are long, steel units.

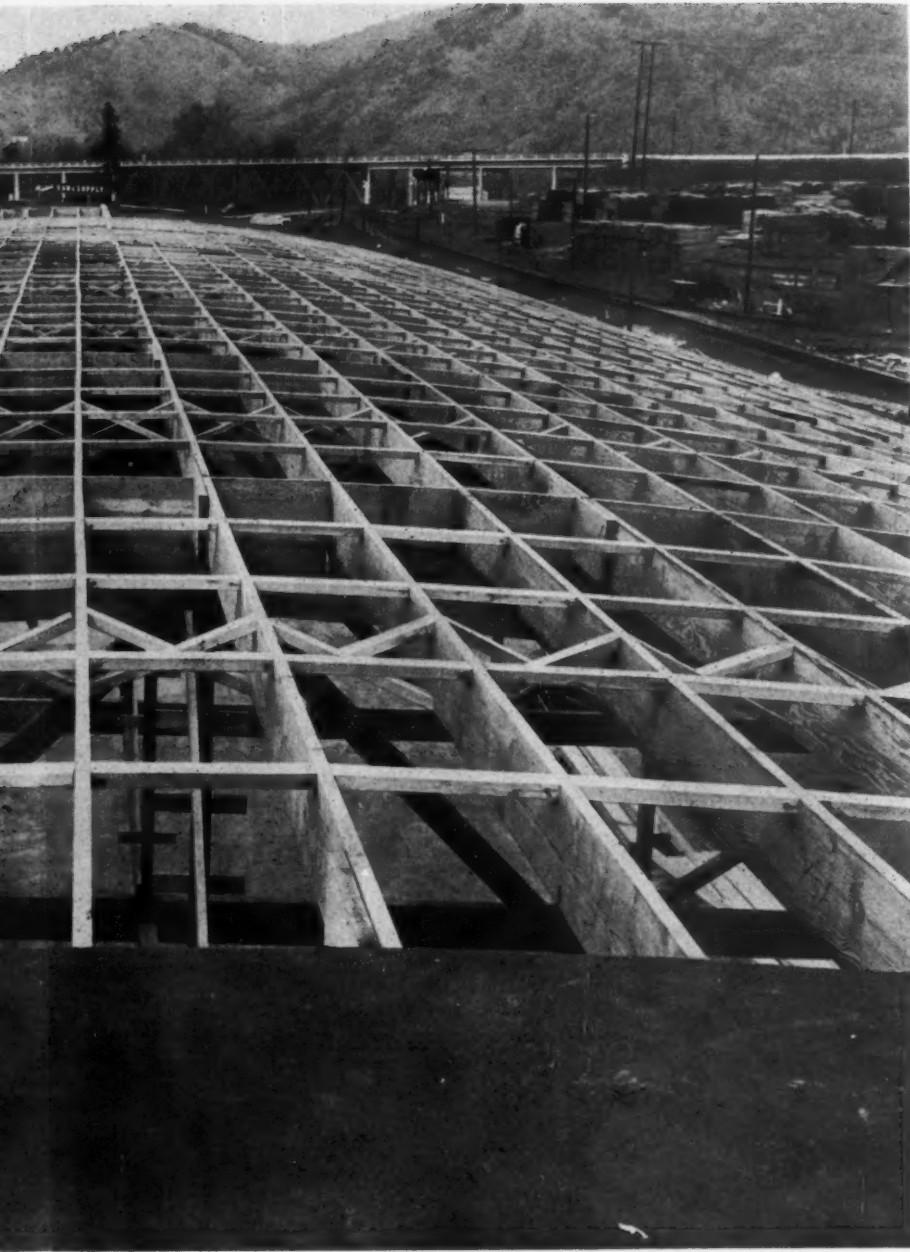
Designed to combine a structural roof and ceiling, these decks, manufactured by R. C. Mahon Co., leave the exposed underside free from the cluttered effect of

beams and purlins.

Lighting fixtures can be inserted between the beam-webs of the deck, and money is saved because of ease in erection costs. This open-rib roof is accepted within the limits established for construction of a bonded roof over one inch of rigid type insulation.

Sound absorption tests conducted by the Geiger & Hamme Laboratories at Ann Arbor, Mich., proved that noise was reduced considerably.

A roof of the long-span M-decks type is doing well at the Pollock



### **cool and warm as the seasons change—if you begin with the right roofing surface.**

Paper Corp. in San Jose, Calif.

#### **Nickel-Copper roofs:**

If smoke, fumes and acids in the atmosphere are eating at your roof, nickel-copper alloy roofing sheets may be what you've been waiting for.

A mixture of 2/3 nickel and 1/3 copper, this corrosion-resistant metal (Monel), manufactured by the International Nickel Co., has a low rate of heat expansion, plus rigidity, high strength and wonderful resistance to extreme

temperature changes.

It can be twisted and bent without breaking, and because it can be laid in thinner sheets than is usual for roofing, installation costs are cut.

First installed it has a soft, dull matte finish. Sunlight produces a neutral, slate grey, while shaded areas turn a greenish-brown grey.

#### **Asbestos-Cement decking:**

Combine asbestos-cement sheet and laminations of impregnated pressed - wood fibers and you've

got "Insulpanel."

Now in use at the Lucky Mc. Mine, Riverton, Wyo., it is non-corroding, immune from decay and insect attack, and fireproof. The pressed wood-fiber core makes it a great insulator and because it won't rust or corrode, maintenance costs will be lower.

THERE ARE a host of other roof surfaces. They come in all shapes and sizes and colors. You've seen them. Like the built-up roof on the new TWA hangar building at the San Francisco airport. Maybe you've noticed it. It's a solid job.

Listen. Here's what went into it . . .

Four plies of No. 15 perforated asbestos felts together with Johns-Manville Aquadam Cement (special dead level bitumen) for the flat part of the roof.

On steep slopes a different process was used. The same J-M asbestos felts were used with filled high melting point asphalt. Lightweight asbestos was chosen by the owners because it was easier to handle and would really stand up to the elements.

If you're at the airport take a look at the roof ribs made of J-M Transitop (a sandwich material of cement asbestos sheets with insulating board core) and attached by self tapping screws to a lightweight steel frame.

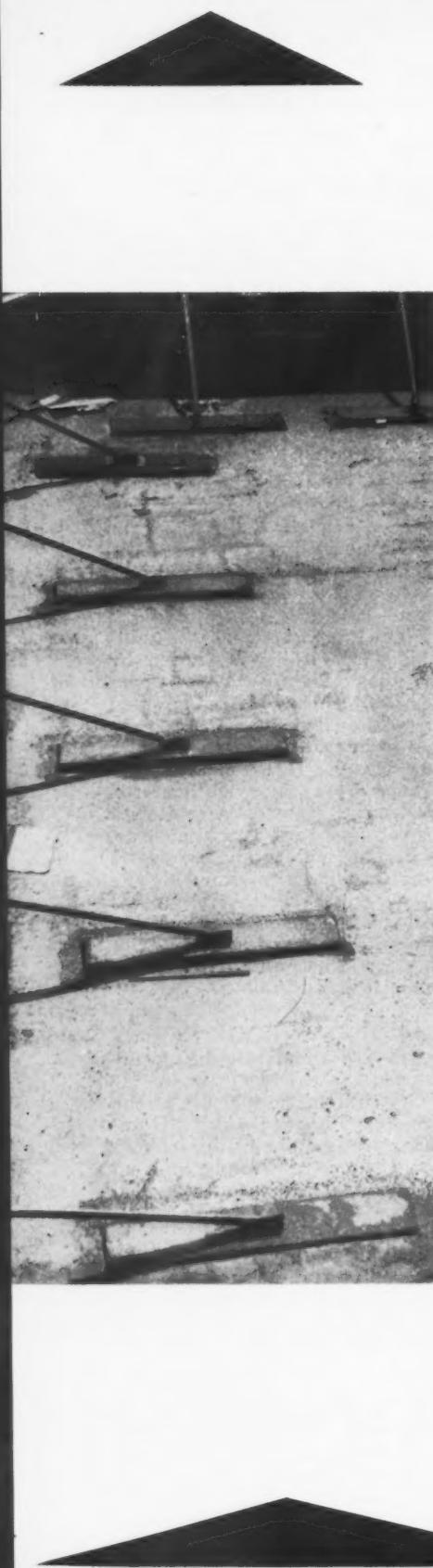
The entire system is covered with a five course Asbestile flashing system (over 18,000 sq. ft. of it,) which lends protection against sun and rain.

AND NEW ROOFING processes are constantly being developed.

One system, now in use at the Umpqua Plywood Corp., Roseburg, Ore., eliminates the conventional three- or five-ply built-up roof in favor of a fir plywood decking, spray coated with a flexible compound.

Joints are taped, and because the compound never dries, the manufacturer, Tropical Paint Co., Cleveland, O., claims the roof won't wear out because of oxidation or expansion and contraction.

G. G. Riggs of the Umpqua Corp. says "We used one heavy coat of the material sprayed directly onto the decking. The job cost about one half that of a conventional tar and paper roof. So far," he adds, "it is free of leaks and easier to maintain."



**RIPPLES OF TAR** begin to slide down sloping roof surfaces as it is heated by the sun. And it isn't until the undercoat is exposed that it becomes important. Then it is often too late for any kind of maintenance.



## Maintenance

### THIS IS IT.

A new roof is a last resort, and maintenance doesn't have to assume the proportions of coating a 400,000-sq. ft. roof, as it did for one plant engineer recently.

He solved the problem by spraying the whole area with Laykold Fibrecoat, a product of the American Bitumuls & Asphalt Co. Fibrecoat is a combination of oxidation-resistant asphalt, and slate-like, heat-resisting, graded mica-flakes. It can be applied to existing roof surfaces when they're either damp or dry. And at a cost of \$1.25 per gallon it compares favorably with less effective and more fire-hazardous asphaltic coatings.

**CREEPING DEATH** slowly moves over the roof on the left and its marks—tar bubbles, bare surfaces and cracks, are etched clearly on its worn surface. Close-up on right exposes cracked flashing that will soak up rain water.

More and more plants are using these "static - type" cold - applied asphalt emulsions.

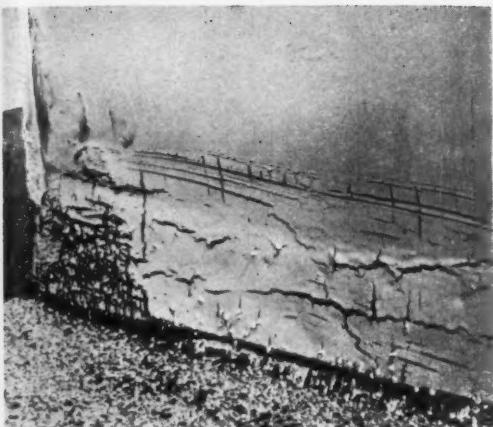
Why?

Because they're easier and quicker to use; lower in application costs; will not run, sag, or "alligator," under heat; and when they are exposed to weathering they provide a durable "honeycomb" film that resists most climatic changes.

Spray guns are moving up, too.

Operated by air pressure, a line can be stretched 600 ft. from a drum of emulsion at ground level to a roof where one man directs the spray. Advantages are obvious. No heavy heating equipment to damage the deck—the





**CRACKS BLEEDING** asphalt are like open wounds in a roofing surface. As the life-blood seeps away the roof becomes brittle and useless as a protection against the elements. Regular roofing check-ups prevent this.

slow mopping and spreading is done away with.

A glittering newcomer on the roof maintenance scene is an aluminum base coating called Luma-tint. Developed by Aluminum Company of America, it combines the light and heat reflecting properties of aluminum paint, the sealing and waterproofing properties of a fibred asphalt roof coating, and long lasting, fade resistant colors.

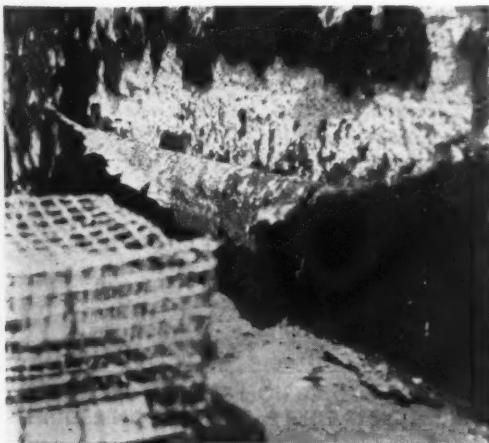
It can be sprayed over cracks in asphalt and built-up composition roofs, as well as on corrugated steel, sheet metal and weathered galvanized surfaces.

The aluminum flaked pigments reflect the sun's rays like the back

of a mirror, keeping building interiors many degrees cooler in summer.

But roof coatings are only a preservative — like paint. If the felts are badly dried out or rotted, no amount of coating can infuse new life into them.

B. P. LaForge, supt. of building and equipment, Consolidated Electrodynamics Corp., Pasadena, warns that: "Roof patching can be recommended only in case of damage to an otherwise sound roof. If leaks occur in a roof that has been watertight for years," he adds, "it is loud warning that the whole roof is ready to give up. Patching is just another added expense."



**BUBBLES OF TAR** (right) that have welled up through the protective coating of gravel are often the first sign that your roof is in trouble. Peeling asphalt (left) is another warning sign too often ignored.



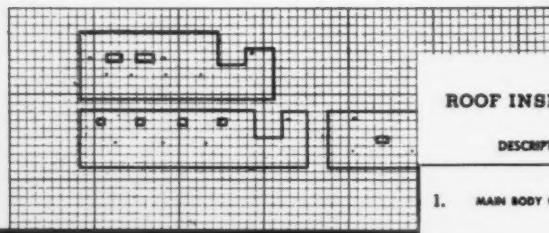
## ROOF INSPECTION REPORT

NAME OF FIRM      Atlas Supply Company

DATE June 1, 1956

ADDRESS      133 Birch Street

1.	Title of Roof Inspected	Roof over Cafeteria, etc.
2.	Date of Inspection	June 1, 1956
3.	Name of Inspector	Stuart C. Brown
4.	Type of Built-Up Roof	Gravel, Mineral Surfaced, Smooth Asbestos, etc.
5.	Type of Deck	Wood, Concrete, Insulated, etc.
6.	Approximate Slope of Deck	2 inches to the foot.
7.	Approximate when applied	May, 1950



### ROOF INSPECTION REPORT

DESCRIPTION	PRESENT CONDITION	RECOMMENDED TREATMENT
1. MAIN BODY OF ROOF	One leak adjacent to skylight E. Mineral Surfacing Drying out.	(a) Repair upturn with Fabcowl & Hydroseal. (b) Apply Coolite & Prime per directions.
2. BASE FLASHINGS	Northwall turn-up burning out.	Repair with Fabcowl & Hydroseal.
3. WALL FLASHINGS	Metal Counter-flashing Looses at "T" wall.	Rewall
4. PARAPET WALLS	Bad settling cracks	Prime and Coat (See Directions)
5. METAL GRAVEL GUARDS, EDGING STRIPS, ETC.	O.K.	
6. SKYLIGHTS, PENT HOUSES, MONITORS, ETC.	O.K.	
7. ROOF CONNECTIONS	O.K.	
8. OUTLETS AND DRAINS	Outlet (2) Clogged	Clean Out

## Keep Your Roof On IT PAYS.

A Roof Inspection Report is the first step. Make a separate one for each roof. Outline a sketch to approximate scale, showing the location of all outlets, connections, sky-lights, vents, stacks, etc. Provide space for a description of the condition of the main body of the roof, flashings, parapet walls, outlets, drains, etc., and recommendations for maintenance and repair.

Keep these inspection reports up to date so that when the rains come — your name won't be "mud."

(Charts from Johns-Manville Corp.)

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14900 Garfield Ave., Paramount, Cal. Phone: NEvada 6-0321

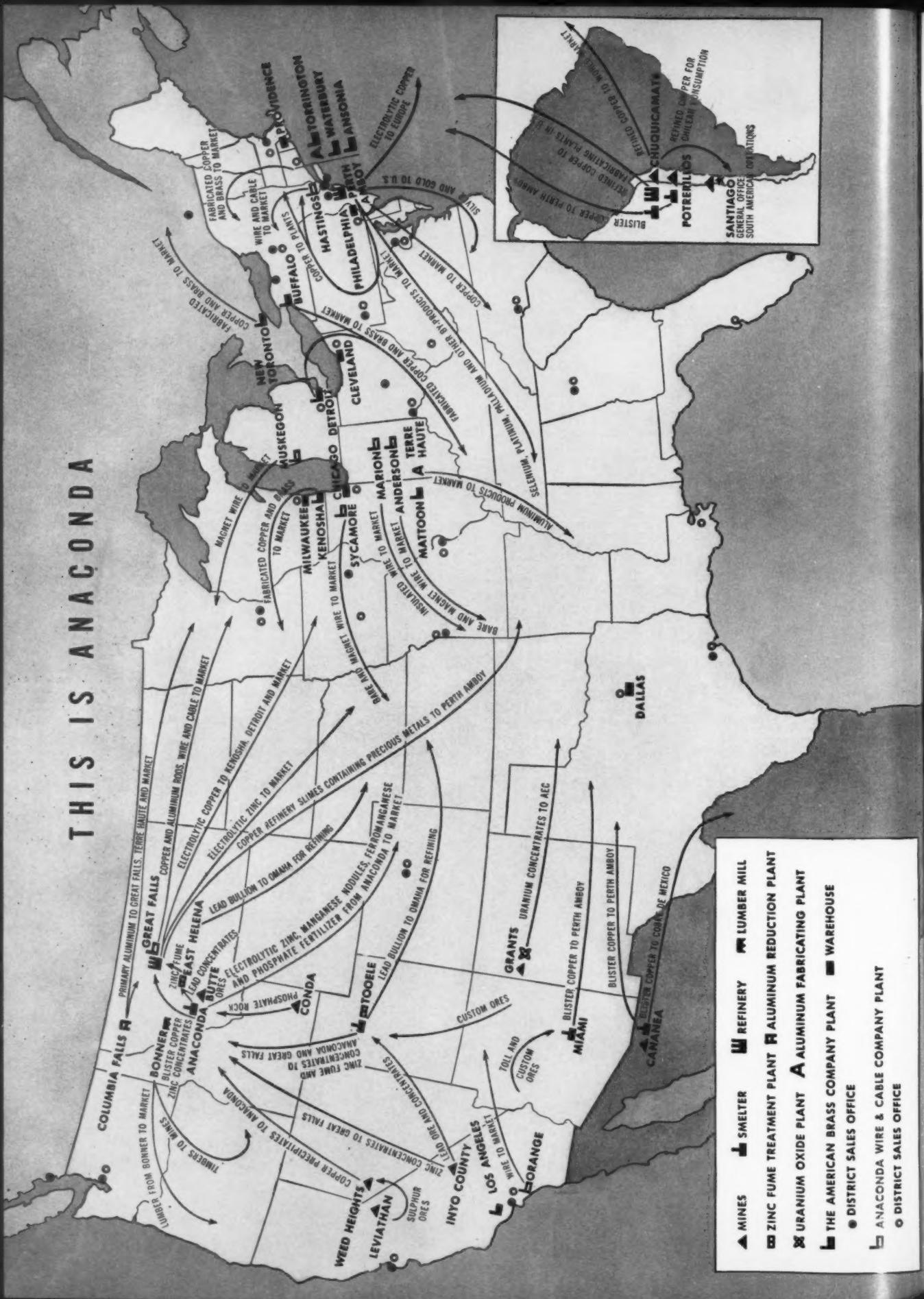
DISTRICT SALES OFFICES: 120 Montgomery St., San Francisco 4, Calif., Phone: YUKon 6-0051  
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### Aluminized-steel roofs

Cold blue on the cover hides 22 pages of picture-packed facts . . . all of them hot. Advantages of aluminized-steel lead to reduced cost figures and available sizes, gages and forms of this durable, atmospheric corrosion resisting roof sheeting. And look at pages 2 and 3 of the insert . . . how's that for taking a cool look at your own product? *Armco Drainage & Metal Products, Inc.*

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Shimmering bronze pulls you out of the grey world into this 50-page deluxe publication on copper roofing products. Flashings, downspout heads, elbows, shoes, ridge rolls, gutters, connections, mitres and outlets glow between diagrams and cutways of application specs and data. Weight tables on page 35 are the crowning glory. Get it and see. *Chase Brass & Copper Co.*

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### Asbestos blankets worries

No nailing . . . cutting . . . fitting or clipping with this inner roof application—it's sprayed on. All asbestos films form a felt-like coating that blankets ceilings against noise and condensation, while providing thermal insulation at the same time. Flip through this data filled, chart covered 4-pager and then see what you think about the properties listed on the back cover. *Keasbey & Mattison Co.*

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### Lighting costs slashed with Rippolite

The key to modern plant daylighting is contained in one word—Rippolite. Laminated plastic panels designed to meet your specific needs, Rippolite comes in corrugated sheets which nest with standard roofing sheets of steel, aluminum or asbestos and will fasten onto purlins or girts without special fasteners. Flat panels can also be used for window glazing applications. It's tough, durable, shatterproof and eases eye-strain by admitting only soft, diffused light which it spreads in all directions. With this product, detailed by pictures and specs in a colorful four page fold out, daylight costs are cut and in some cases eliminated as no artificial lighting is needed. See the technical data on the back cover? . . . can you use savings like that? *Rippolite Plastic Products, Inc.*

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Put Armco FLEX-BEAM Guardrail to work inside and outside your plant at key points like plant entrances, parking lots, aisleways, structural supports for your buildings, and around valuable machinery and equipment. Write us for complete information.



Wandering trucks cannot damage this important production equipment. FLEX-BEAM provides complete protection. Guardrail also makes definite separation of work area and busy traffic aisle.

### **ARMCO DRAINAGE & METAL PRODUCTS, INC.**

CALCO AND NORTH PACIFIC DIVISIONS

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... for more details, circle No. 26 on Reader Service Postcard

### Coal-tar pitch roofing

These two are beauts! One booklet takes a long, low look at what goes into a good coal-tar pitch roof, while the other is a man-sized catalog on built up roofing specifications. Charts and cutaways combine with pictures to pack these pages with the answers to darn near every roofing condition you're likely to face. This is a pair of publications you shouldn't be without. *Koppers Co., Inc.*

... for your copy, circle No. 157

### Liquid asbestos roofing

Here's a 4-pager on "Nacor" (air blown liquid asbestos roof coating). Pictures tell the dramatic story of why your roof needs this pure asphalt-based, asbestos-fibred, roof coating. And it goes on tin or metal, composition, concrete and slag surfaces. That picture spread in the fold-out really hits home. *National Asphalt Corp.*

... for your copy, circle No. 158

### Corrulux panels and domes

Controlled light transmission is just one property of Corrulux outlined in this 8-pager. What is it? Corrulux is a plastic-type material that resists fire, chemical corrosion and sudden impacts, plus having a low coefficient of expansion. Selection data charts combine with pictures and another 4-page fold out to detail the part plastic can play in your roof. *L.O.F. Glass Fibers Co.*

... for your copy, circle No. 159

### Cold process built-up roofs

The index on page 2 tells you at a glance the proper type of built-up roofing to meet your problems. Just read across deck type, surface and incline, and stop at the specification number meeting the known requirements. Now you've got it . . . the page on which detailed specifications are listed. Requirements for bonding roofs from 10-20 years are all here, complete with cutaways and diagrams. *The Philip Carey Mfg. Co.*

... for your copy, circle No. 160

### Aluminum building products

Aluminum's a real "comer." In fact it's arrived, and with its low maintenance costs, high strength, insulation, modern appearance and fire resistant characteristics . . . it's here to stay. Look at Reyconwall insulated curtain wall units on pages 4 and 5 of this 8-pager. Isn't that something? And corrugated sheets, V-beams, ribbed embossed siding, drainage and flashings, all in aluminum, will really set you thinking. *Reynolds Metals Co.*

... for your copy, circle No. 161

### Built-up roofs

Know what a "bonded" roof is? Here's 30 clear, concisely-written pages on what Pabco bonded means. Application requirements . . . specs for applications . . . flashing and gravel stop details, are joined by pictures to show what goes into a roof certified to last 20 years. *Fibreboard Paper Products Corp.*

... for your copy, circle No. 162

### Monel roofing sheet

If acid eats into your roofing surfaces, then read this 4-page folder on Monel sheeting . . . you'll find a lot of answers. Charts, specs and a list of installations (one is 48 years old), tell the full story of this 2/3 nickel and 1/3 copper alloy sheeting. It's really worthwhile reading. *The International Nickel Co., Inc.*

... for your copy, circle No. 163

### Why Insulpanel?

A quick way to find out is by thumbing through this eight-pager. Insulpanel is maintenance free, insulates, is fire-proof, weatherproof, economical and has high re-use value. What is it? The manual tells you on the first page, first and second paragraphs. Gives exact specifications, application blueprints and cutaways. Here's a clue. It's a roof decking that will save you money. *Keasbey & Mattison Co.*

... for your copy, circle No. 164

### Selecting built-up roofs

Ever seen a roof selector? One'll jump out at you from this 48-page specification booklet . . . once you drag yourself away from the striking design on the cover. It's simple. Refer to page 3 and the "Relative Cost Table." Choose the built-up roof assembly that best fulfills the requirements of your project. Check the "Utility" and "Limitations" paragraphs and then copy the short form spec. shown on the page of built-up roofing assemblies. The work's done for you. You can't miss. *U. S. Gypsum Co.*

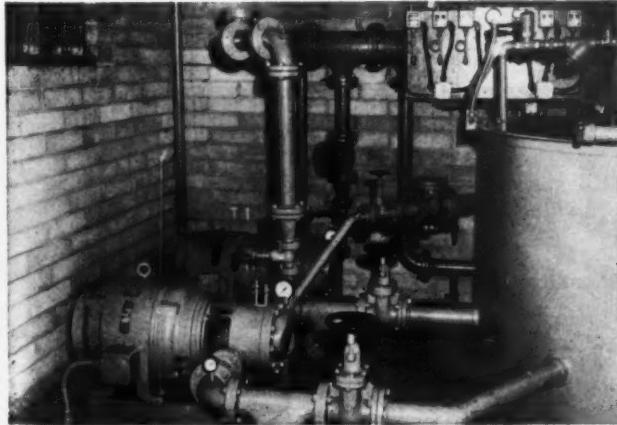
... for your copy, circle No. 165



A hippo surfaces with a cavernous yawn—powered by water from F-M pumps shown below.

## From butterflies to hippopotami

### F-M pumps make animals "live"



In one of the world's most fabulous amusement parks, waterfalls tumble; rivers flow; hippos yawn, and giant butterflies flap their wings—all water-powered by Fairbanks-Morse pumps with F-M motors.

Although a most unusual application, these F-M installations demonstrate the flexibility and experience of Fairbanks-Morse in working with the engineers of any organization.

Whatever type, size or capacity pumps you need—you're sure of satisfaction when you call in your F-M Sales Engineer. Contact him today, or write directly to Fairbanks, Morse & Co., 600 South Michigan Avenue, Chicago 5, Ill.



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... for more details, circle No. 27 on Reader Service Postcard

# STEEL BUILDINGS—A STUDY IN SAVINGS

*Lower costs, faster erection and portability are making steel buildings an integral part of the Western scene.*

**WESTERN INDUSTRY** is booming—ask the experts, they'll tell you. And with people flocking in all the time, industries are expanding faster than ever before. Faster even than buildings can be conveniently erected in many cases—unless they're steel buildings, that is. Listen to this . . .

At 8:00 a.m., April 12, 1958, a truck drew up in front of the S & W Fine Foods, Inc., plant in Redwood City, Calif. On it nested sections of steel painted an olive drab. **Art Wesley**, erection foreman for Soule Steel Co., and his five-man crew set to work and in 30 minutes had unloaded steel parts for a warehouse containing 6,400 sq. ft. of floor space.

Five days later, a spanking new 80 x 80 ft. building was ready for a poured concrete floor and use as a pickling plant.

This type of "packaged" building is becoming a familiar landmark in the West. Silhouettes vary from long, low looks to structures of square cut precision, but certain characteristics remain uniform.

As **Jerry Gatchell**, Pacific Zone manager for Stran-Steel, puts it: "Five points are basic with most steel buildings—they're low in initial cost as well as maintenance costs . . . rapid occupancy means quicker return on capital investment . . . they're easily expanded after original construction . . . and they're fire-safe as well as being resistant to vermin. And of course, they're fully designed and engineered as a lasting structure."

**B. K. Anderson** and **Dale Tingle**, co-owners of the A & T Machine Co., Hawthorne, Calif., had nothing but enthusiastic comments after the installation of a Stran-Steel building by Federal Steel Corp., Stran-Steel's Los Angeles dealer. It's a 50 x 100 x 14 ft. structure with a 24 x 26 x 10 ft. Stran-Master attached.

"Since less than 3% of the entire building, including all office partitions and fixtures, is of wood or inflammables," they reported, "our fire insurance is at a minimum, saving us over \$500 a year. And our 'one-package deal' with Stran-Steel responsible for everything from the breaking of

ground to the ultimate completion and financing of the building was an especial advantage to us," they added.

Empire Steel Building Co., has a "one-contract" construction deal, too. Their engineering, financing and construction departments coordinate to do away with permits, legal details and what were previously real building headaches.

Ask any of the owners of new Empire buildings if they suffer from insomnia. Doesn't matter if its the Plastic Age Co., Newhall, Calif., which has a 5,400-sq. ft. concrete block administration building and an additional five-steel panel building devoted to production, or the Plywood Products Co., Inc., Corona, Calif. (with a multiple span rigid frame building covering 120 x 200 x 17 ft. with all offices completely heated and air-conditioned)—they'll tell you that steel buildings did away with their expansion worries.

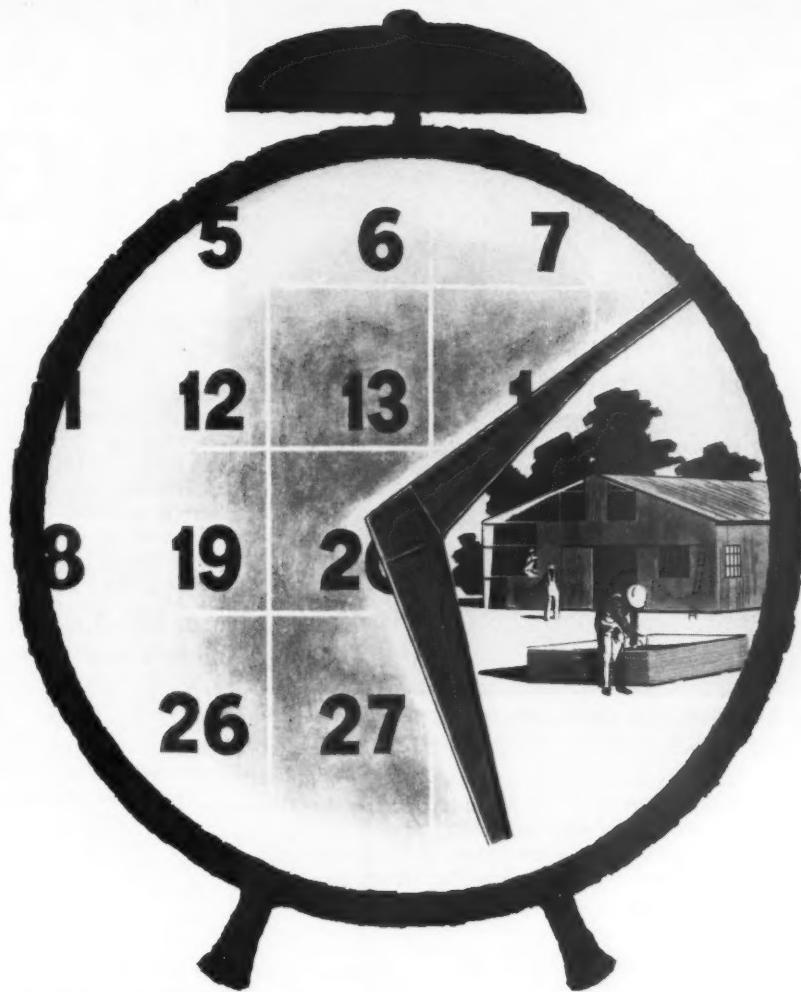
But not all steel buildings are the same.

Armclo Drainage & Metal Products, Inc., make more than 5,000

**SKELETON-LIKE RIBS** are outlined in stark relief against the sky as one more unit nears completion



# SOULE' MIRACLE-FRAME BUILDINGS



**Ready to erect Now  
Ready to occupy in days !**

All-bolted steel construction of Soulé Buildings helps you profit two ways.

First, it means faster erection—with savings in construction time and costs. Secondly, you're in business sooner, with minimum time spent in finishing your new business structure. Building parts are stocked ready for immediate delivery and erection by our factory crews. Call today for a quote on the most immediately available building you can own!

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Seattle 4100 West Marginal Way  
Spokane East 41 Gray Ave.  
Phoenix 2026 South 11th Ave.  
Salt Lake City 220 Greyhound Bldg.

**Soulé**

LEADER IN STEEL BUILDINGS

**SOULE' STEEL COMPANY**

member metal building manufacturers association

... for more details, circle No. 28 on Reader Service Postcard



**STEEL FRAME SUPPORTS** allow such space-consuming operations as freight car loading. And, you can add extra bays of identical parts.

different sizes to meet every space need, although they specialize in five basic types.

Shed roof buildings provide ideal, small auxiliary space, while frameless, gable roof design fits most immediate size requirements. Rigid frame buildings extend the clear span width up to 100 ft., but where heavy snow loads are expected, maximum clear-span width of rigid buildings is 60 ft. And the truss type building provides spans from 60 to 100 ft. without center posts, while practically any width can be achieved with multiple span installations.

A rigid frame Armco building was selected by the Ducommun Metals and Supply Co., for its Northern California plant in Berkeley. They needed a new 4,000-sq. ft. office building—and they wanted it completed within six months.

Standard 40-ft. width and 100-ft. lengths provided the necessary floor area, and Armco Steelox panels, interlocking 16-in. wide units that provide smooth exterior finish, were used for the exterior wall covering.

On this project, all bolting was from the INSIDE, where interlocking joints formed a regular

framework (16-in. module), to which standard type insulation was applied.

How long did construction take? The building was in use just 4½ months after the land was purchased. And for good reasons.

The high strength/weight concept of fabricated steel spells savings in manufacturing time, while each standard part fits exactly as most of the precision work had already been done at the factory.

The result is an office with a clean functional interior, with metal sun-control louvers providing well balanced light without sun penetration, at the same time eliminating any need for shades or blinds.

The greater the amount of shop fabrication the less field labor is required. Stefco, a wholly-owned affiliate of Steelcraft Manufacturing Co., specializes in completely assembled wall panels and welded trusses which can be raised into place in a matter of minutes instead of days.

And by using an embossed hole fastening system, roof panels can be quickly applied by one man on the outside of the building—cutting any need for scaffolding.

Insulation is attached at the factory in the sidewall panels and roof insulation is cut to size and shipped complete with fasteners for application on the ceiling slope or at the bottom of the truss, to form a flat ceiling.

Small wonder that in a mass production economy, the factory building itself continues to be custom-made. Take the Butler Manufacturing Co. for instance, it offers 620 different combinations in sidewall heights, bay lengths and width and types of metal cover. And as business expands, units like these enable you to expand with it.

Here's what it takes.

Business is up and you need additional production space. Select a building expert. He'll loosen end-wall structural and install foundations . . . move out end-wall to the new limit of your building, using existing panels as a unit . . . add rigid frame units, roof purlins and sidewall grits. Your additional space will be ready for enclosure within a day or two after the concrete is ready.

Now, add cover panels and that does it. You've salvaged 100% of your existing materials and there was no demolition, muss or fuss.

If you decide on a new building, lend an ear to what the Davis and Hellman Chevrolet agency in Manteca did . . .

They chose a low-profile skeleton to which they added pre-engineered Pascoe Steel panels. Result was a streamlined, rugged new structure with an up-to-the-minute look that is so much in place in the West.

And looks are important—so long as they're functional. One portable Empire building has been moved a total of seven times, with dismantling and re-erection accomplished in a matter of days.

How do you buy such a portable yet functional steel building? Select a site (making sure pre-fabricated units are allowed), and contact a steel building manufacturer. You'll find literature from leading firms reviewed in this issue. And don't start worrying about foundations and other technical details. In most cases manufacturers take care of all this. And painting—if you want it—can be expertly taken care of by your contractor.

How much will it cost? Well, you can be sure of one thing—it'll cost a great deal less and serve you better than most any other type of building.

*build today...and save your working capital*

**NOW 10% DOWN BUILDS COMPLETE  
EMPIRE STEEL BUILDING**



Complete  
40' x 100' building,  
expandable when necessary.

**ONLY EMPIRE OFFERS**

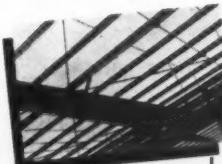
Custom 4,000 sq. ft.  
Steel Panel Building

**JUST \$658.00 DOWN**

(\$197.98 per month) on 36 mo.  
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terms available—

Low payment averages only 5¢ per  
sq. ft. per month—includes complete  
40' x 100' clear span building with  
truck doors, walk-in doors, vented  
sash, all sheet metal accessories,  
one-piece roof sheet, and rolled and  
tucked eave and ridge sheets—  
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STEEL AND CONCRETE CONSTRUCTION—TURNKEY JOBS

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WESTERN INDUSTRY—June 1958

**Empire EXCLUSIVELY  
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**Lowest Cost Turn-Key Construction** pioneered by Empire brings you the finest steel panel buildings available ...and for only 10% down. Empire building methods will save you money, and have your building ready to move into in just weeks. Custom details and custom engineering assure that your smart, cleanly designed Empire building will perfectly fit your business...and economically permit future expansion.

To further conserve your working capital, Empire offers **3 EXCLUSIVE FINANCING PLANS:**

- 1 **Buy your building for 10% down on your own property, paid for or not.**
- 2 **Buy your building for 10% down on leased property.**
- 3 **Lease at lowest rates ever on your own property, or leased property.**

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**EMPIRE STEEL BUILDINGS COMPANY**

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 Please advise me about Empire Financing Plans.

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Firm bids without obligation

... for more details, circ.e No. 29 on Reader Service Postcard

# Best steel building manuals — (use postcard page 77)

## Columbia-Geneva booklet available soon

An 8½ x 11 in., 16-page booklet entitled "Steel for Industrial and Commercial Buildings" will be available within the next few weeks. It will detail construction systems now featured by Western fabricators for pre-fabricated "packaged" buildings and custom-designed prefabricated steel buildings. New building blocks made from steel will be highlighted. They're available in the form of built-up column and roof beam members as well as in various specially formed sheets for sheathing, roof decking and curtain wall panels. In addition there will be a section illustrating the use of Western curtain wall paneled buildings featuring porcelain enameled steel. **Columbia-Geneva Steel Div., U. S. Steel Corp.**

... for your copy, circle No. 175

## 3 booklets detail newest in Stran-Steel line

Here's a trio of pamphlets with a luxury look—and they're gold-plated reading, too. A fold out on Stran-Steel's purchase plan is designed to show you how you can benefit now and pay later when you expand your operations. Questions like: "How large a sum can be financed," and "How long do I pay?" are clearly answered. There's also an 8-page on steel buildings for industrial uses that gives you a cutaway look at the type of construction available. In addition, 20 colorful pages of architect's sketches, diagrams and specs on the luxury look of Stran-Satin steel buildings will have you circling your reader service card quicker than you can say Stran-Steel. **Stran-Steel Corp., Division of National Steel Corp.**

... for your copy, circle No. 176

## A concise guide to Armco custom-built steel units

There are more than 5,000 Armco steel buildings to meet your every space need—and a good cross-section of them is packed into this 34-pager. Beautifully printed and illustrated with diagrams, specs, and pictures, it takes you on a visual tour of steel buildings. Data and suggested plans are presented with crystal clarity in a neat folder, and each of the six separate pages is an almost complete working blue print. If you haven't time for such detailed data, there's a condensed 4-page fold-out that includes actual cutaway construction details. **Armco Drainage & Metal Products, Inc.**

... for your copy, circle No. 177

## Long, low look featured in Pascoe metal buildings

The long, low-profile building is rapidly becoming a part of the Western industrial scene—and you'll see why in this picture-packed, data-filled brochure. Pre-engineering is the key to Pascoe's modern look, along with the beauty and strength of Pascoe panels. Add to this such refined features as adjustable base shoes, weather-seal mastic and eave flashing, die-formed ridge panels, weather-seal door guides, sliding doors, 90-deg. corner panels and a walk-in door, weather-seal threshold, and you'll understand why metal buildings are becoming such a familiar, every-day sight. And look at the dramatic demonstration of the strength of Pascoe panels on page 7 . . . see what we mean? **Pascoe Steel Corp.**

... for your copy, circle No. 178

## 32-page guide to range of Dresser-Ideco buildings

Five types of steel buildings, numbered for easy reference, are pictured on page 3 of this data-filled manual. And on the following pages physical characteristics, construction

details, units already installed and building styles are brought to life through diagrams, specs, cutaways and photographs. Look at the Comparison of Heat Control Efficiency on page 21 . . . and the blue print diagrams on page 25, and . . . well, you get it. You'll be glad you did. **Dresser - Ideco Co.**

... for your copy, circle No. 179

## How to put buildings on production team

Steel buildings that offer benefits of mass production and custom design are the subject of one of three catalogs available to you from Butler Manufacturing Co. Fold-out pages give pictures a panoramic effect as you're whisked into already constructed factories to see advantages of rigid frame constructions for yourself. Low-profile buildings with a wide, handsome, look are brought to you in an exciting two-color, illustrated brochure, while a general catalog (form 1375 R) gives a detailed look into Butler's wide range of metal buildings. **Butler Manufacturing Co.**

... for your copy, circle No. 180

## All purpose 20 x 25 ft. Soule steel buildings

Need a building now — a low-cost structure for your special need? Now Soule, one of the West's leading producers of steel buildings, has developed a small, rugged unit with a rigid steel frame. It's clear-span, post-free interiors facilitate greater usable floor area, while wide, easy-access steel sliding doors and fixed or rotary type ventilators are added functional characteristics. In this fold-out, Soule's new 20 x 25 ft. building is detailed with cutaways and pictures. But it's the back page that has real impact . . . it shows how parts are mass produced and you can erect the building yourself with the aid of simple hand tools and complete erection details supplied by Soule. So here it is, at last—a "do-it-yourself" industrial construction. Read about it. **Soule Steel Co.**

... for your copy, circle No. 181

## Fact-packed folder, booklet feature Empire one contract

Turnkey construction . . . that's the key to what's special about Empire steel buildings. Oh, they've got as many types of buildings as other manufacturers, but Empire takes care of plans, permits, financing and site preparation as well as design and engineering. Just flip through this 22-pager and you'll quit worrying about expanding your plant. Look at pictures of applications already in profitable use. Diagrams, section highlights and a whole spread of accessories add meaning to the slogan at the bottom of the first page—"When you think of building, think in terms of an Empire." **Empire Steel Building Co.**

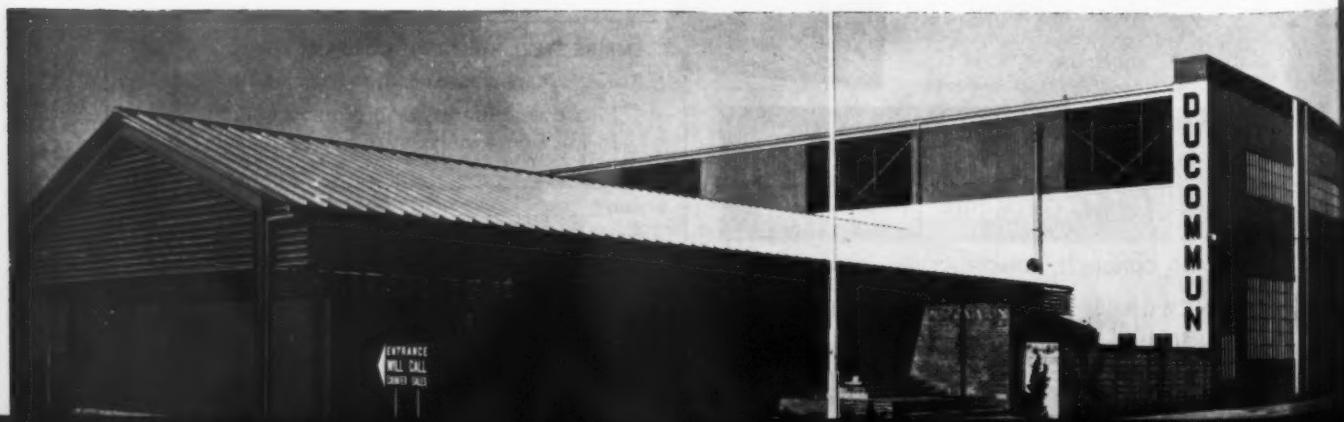
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## Standard panel type Steelcraft buildings detailed

Although Stefco is a wholly owned affiliate of Steelcraft and they both make steel buildings, there's a difference. Stefco specializes in panel type constructions, as detailed in this colorful four-page fold-out complete with diagrams and specs on these easy-to-construct, easily-dismantled units. Steelcraft, on the other hand, manufactures standard steel buildings as illustrated in a 20-page catalog with descriptive data and fundamental facts on a wide range of their products. Structural types, rigid frame and truss type buildings are covered in detail, with dimensional data tables giving 3D depth to the story of steel buildings. **The Steelcraft Manufacturing Co.**

... for your copy, circle No. 183

THE BEAUTY OF STEEL BUILDINGS is captured in the Ducommun Metals & Supply Co. plant at Berkeley, Calif.



# **Now! Steel Buildings that Smash the Price Barrier!**



**The new Stran-Master pays for itself**

**And builds for only 25% cash down!**

## **5 year financing cuts costs lower than rent**

Now it's sheer extravagance to try and operate your business with inadequate buildings. The new, attractive Stran-Master steel buildings are so low in initial cost, finance so favorably, you can afford all the facilities you

need . . . and pocket the landlord's profit! Call on our expert free counseling service to show you how a Stran-Master building, custom engineered for *your* business, pays off in every way . . . and ready for use in 30 days.

Contact your nearby  building specialist for details and literature.

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Modern Building Company  
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Bergman & Turner  
43847 N. Division, WH. 2-9551

**SANTA BARBARA, CALIF.**  
Kenneth C. Urton  
725 Cacique St., WO. 6-6271

**LOS ANGELES-SAN DIEGO**  
Federal Steel Corp.  
1550 Canal Ave., Long Beach  
Phones: HE. 7-0451 • NE. 6-1753

**SACRAMENTO, CALIF.**  
Modern Building Company  
Phone: Gl ibert 2-2917

**SAN FRANCISCO-OAKLAND**  
Camping Corporation  
290 Hegenberger Rd., Oakland  
Phone: NEptune 6-1010

**SAN JOSE, CALIF.**  
O. E. Anderson  
1075 N. Tenth, CY. 3-8844

**STOCKTON, CALIF.**  
Central Valley Steel Bldgs., Inc.  
1113 W. Fremont, HO. 4-5597

**PENDLETON, ORE.**  
Irons Lumber Co.  
1907 S.W. Court Pl., Phone CR. 6-7711

**SALT LAKE CITY, UTAH**  
Titan Steel Corp.  
1363 Major St., IN. 7-5451

**PHOENIX, ARIZONA**  
Young Steel Buildings, Inc.  
642 N. 17th Ave., AL. 8-6701

**TWIN FALLS, IDAHO**  
Reynolds & Walker  
1155 Highland Ave., RE. 3-5181

**SEATTLE, WASH.**  
Craigie-Rank & Company  
710 Harrison St., MA. 4-7134

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610 Columbia Bldg., RI. 7-3138

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## FREE LIGHT!

with RIPPOLITE  
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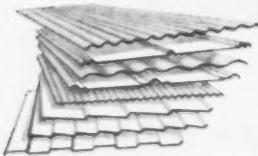
Rippolite cuts glazing costs up  
to 60%... cuts glare to pleasant  
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Fast and easy to install—even  
on cloudy days transmits good  
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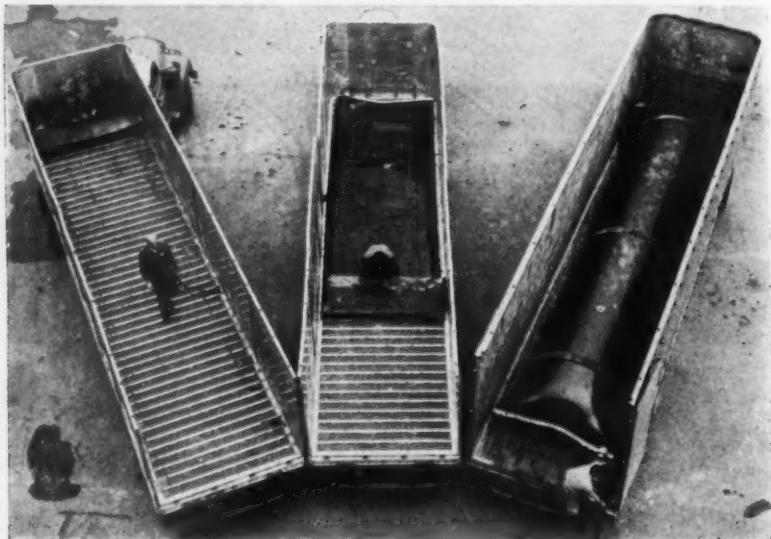
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ZONE \_\_\_\_\_ STATE \_\_\_\_\_

... for more details, circle No. 31

## KNOW-HOW NOTEBOOK

Part 1, continued

**DRY CARGO ONE WAY AND LIQUID COMING BACK** is unique feature of this trailer truck equipped with U.S. Rubber Co.'s "Sealdtank" rubber-fabric (folding) container. Three basic steps convert trailer.



## Pump on wheels saves chemical firm **\$4,687.50 per year**

BY MOUNTING a sump pump on wheels, making a special fan-shaped inlet with grill openings, and operating the equipment like a vacuum cleaner, a California chemical corporation saves 1,875 man hours and \$4687.50 per year.

Formerly, it took 500 man hours to do the job.

Now, one man pushes the "cleaner" while another man guides the discharge and air hoses. Since it takes only 125 man hours to clean one basin with the Ingersoll-Rand size 25 Sump-Pump, the company saves 375 man hours per basin, at \$2.50 an hour per man at a rate of one basin a day, 5 days a week.

Basins cleaned are located in cooling towers, and the job is made doubly difficult because sand and sediment are four feet under water.

All in all, this sounds like a pretty handy vacuum to have around.



**SPECIAL FAN-SHAPED INLET** with gull openings gives unit vacuum-like look.

# Continuous cycling operations cut costs, eliminate idling time

HERE'S HOW one firm eliminates idle time by arranging operations for continuous cycling.

The Westinghouse Electric Corp. at Sunnyvale, Calif., found that the main advantage of continuous cycle machining is that loading or handling time is virtually eliminated, and that frequency of the cycle is controlled by the machine and not the operator.

Machining the fourth side of a piece of blade material to remove excess stock and to provide a locating surface for subsequent machining was one typical operation.

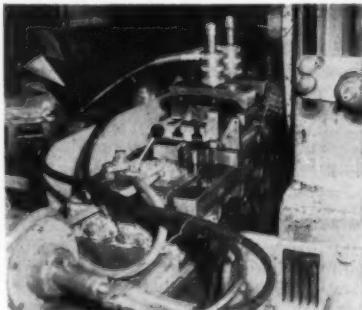
Study showed that due to arbor deflection, and deflection in the vise jaws, quality of work was not consistent. Only one piece of material was machined per cycle, and the length of time required to re-load and start the machine to re-cycle was controlled by the operator.

There was need for improvement—a new approach in machining as well as cycle control.

So, in addition to converting to a continuous cycling operation, it was fixtured for face milling. Air power hydraulic clamps were added to speed loading and minimize operator fatigue.

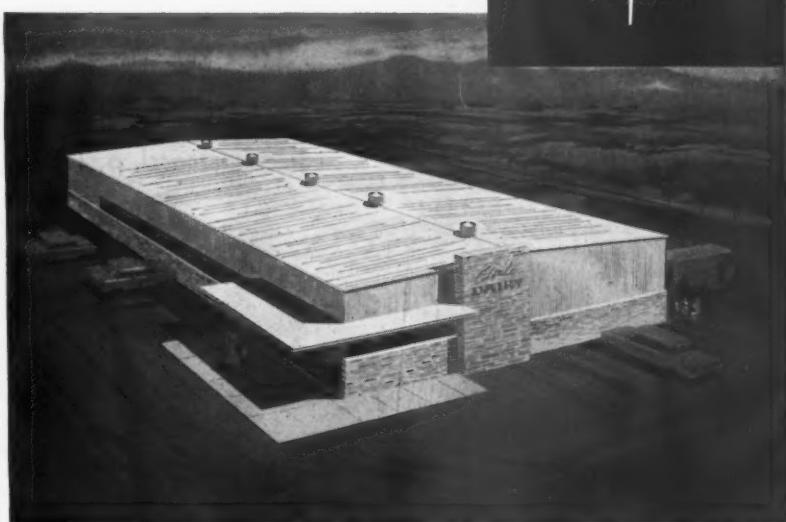
This conversion resulted in improved quality, shorter cutting cycles through increased feed rates, elimination of idle or loading time and decrease in operator fatigue.

Operations converted in this way have already resulted in production increases of 10% to 25%.



**HANDLING TIME IS SLASHED** by operations arranged for continuous cycling method.

## We deliver the backbone



## you choose the exterior

**New low-cost, low-profile Pascoe Buildings** are pre-engineered to provide the permanence of traditional construction at a fraction of the usual time and cost.

Any type of finish—including tilt-up concrete and masonry walls—can be used with Pascoe's basic steel structure. You can select the exterior finish best suited to your needs...for plants and warehouses...as well as supermarkets...showrooms...bowling alleys...amusement centers.

For an entirely new kind of attractiveness in metal buildings, see the newly designed Pascoe Panels. Their clear-cut shadow lines provide a handsome wall surface...when used exclusively or in combination with other finishing materials. Their new-type ribs make Pascoe Panels three times as rigid as conventional corrugated sheets.

*Send for free Pascoe Building Cost Calculator.*



### PASCOE STEEL CORPORATION

METAL BUILDINGS · ROOF STRUCTURES  
PASCOE PANELS



*Serving the Western U. S. and Countries of the Western Hemisphere*

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#### PASCOE STEEL CORPORATION

1301 East Lexington Avenue, Pomona, California

W-6

- Please send me Pascoe Cost Calculator
- Please send me New Illustrated Planning Guide
- I would like free planning assistance by local Pascoe Builder

NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_ ZONE \_\_\_\_\_ STATE \_\_\_\_\_

... for more details, circle No. 32 on Reader Service Postcard

## **-Paints and Protective Coatings-**

... use postcard, p. 77

### **70-page Truscon maintenance manual**

A complete list of functions and uses of Truscon building maintenance materials is detailed in this data-packed 70-page book that fits in your pocket. Restoration of brick, stucco, concrete and cinder block surfaces in a variety of colors is described. Double-indexed, it also has bordered pages for quick reference to various subjects, and devotes 10 pages to reference and data tables to make your job easier. An additional fold-out details how buildings are protected with silicone coatings. **Truscon Laboratories, Division of Devoe & Reynolds Co., Inc.**

... for your copy, circle p. 200

### **Guidepost to Dum Dum Coatings**

Dum Dum coatings are not considered in the same category as paint, they're heavy, rugged materials that include a wide range of uses from waterproofing of metal and masonry, to calks and boiler-setting compounds. What materials make up the Dum Dum line? ... it's all here in this handy fold-out. **The Arco Co.**

... for your copy, circle p. 201

### **164 page catalog on Arco maintenance products**

This is a giant. And it's packed from cover to cover with such vital subject matter as metal protective products, masonry finishes, calking materials, aluminum paints, floor coatings, enamels, varnishes, and prefab coatings. Everything is here for complete protective maintenance. If you care about money you'll care about this catalog and want it where you can refer to it quickly. **The Arco Co.**

... for your copy, circle p. 202

### **Technical data on condensation drip and corrosion**

How to control condensation drip from cold surfaces with NoDrip plastic coating is the subject of this 32-page technical data handbook. NoDrip also protects metal from rust and corrosion. Pictures, charts and specs combine in this manual to present a complete story of how to prevent rust, and this company should know what it's writing about ... it's been producing technical coatings since 1895. **J. W. Mortell Co.**

... for your copy, circle p. 203

### **Special data on prepaint treatment**

Designed for use in the Oakite CrysCoat process of phosphating, and the ChromiCoat method of treating aluminum, these seven fold-outs make colorful, informative reading. Zinc phosphating materials for application in either tank or spray washing machine, and materials which simultaneously clean and deposit iron phosphate coatings on metal surfaces in various weights, are each described separately. Operating instructions are given. ChromiCoat, conversion coating that protects unpainted aluminum against corrosion and, when used as a prepaint treatment, improves paint adherence and protects against corrosion under painted surfaces, is detailed with crystal clarity. **Oakite Products, Inc.**

... for your copy, circle p. 204

### **128-page guide book on maintenance**

This gem is designed to fit in your pocket and be ready for immediate use ... and chances are you'll be using it constantly. It covers concrete and wood treatments, damp-proofings, caulking compounds and roof coatings as well as paints and protective coatings. Included is a 4-page brochure on the Sonneborn rust prevention system which is available with the guide book. It's indexed by both product and uses, has many valuable charts, plus weights, measures and general painting data. **L. Sonneborn Sons, Inc.**

... for your copy, circle p. 205

### **Three booklets on protection by paint**

They're all beauties ... the first's a fold out on how to protect galvanized steel, aluminum, concrete, stucco, etc., complete with details on L & S paint's physical properties, while the second details preparation for and application of the General Paint Tanx Protection System. The third describes a complete protection against rust and includes a color chart of "Rustmaster" paints for protective uses. **General Paint Corp.**

... for your copy, circle p. 206

### **32 page course in practical paint technology**

Presented as a service to the engineering profession, this 32-page booklet by Dr. A. F. Pistor, director of research and product development at the Inertol Co., Inc., describes the principal types of protective coatings. It's a text book in the paint field and covers a mass of vital details in very readable ways. In addition, a fold-out describes chemical-resistant enamels and provides an impressive list of satisfied customers. You'll be one, too. **Inertol Co., Inc.**

... for your copy, circle p. 207

### **Acid-proof cement linings and coatings**

Here's a 12-pager on acid-proof bricks and cements, rubber and resin linings, coatings, acid-proof tanks and many other practical preservative applications. The very latest developments are here in this booklet, see pages 4, 5, 6, 7, 8, and 9 for data on Duron No. 90, Duro-Crete, Kel-F-laminate, Teflon sheet linings and other up-to-the-minute linings and coatings. **Electro-Chemical Engineering and Mfg. Co.**

... for your copy, circle p. 208

### **Rust-Oleum helps you select coatings**

Protective coatings are fine, but it's sometimes pretty hard to select the right one for the surface you need to cover. In this 36-page protective coatings manual complete sections are devoted to methods of surface preparation, use of primers and finish coatings. Color chips of 102 different coatings are included to make selection of your protective coating easy. P. S. The color in this manual is really outstanding. Get it and see. **Rust-Oleum Corp.**

... for your copy, circle p. 209

### **Sales appeal plus rust prevention**

Here's an envelope made from MY-V-1, a new packaging film that combines properties of rust prevention, clarity, heat sealability and high tensile strength. And there's a rust preventive use-chart 17x22 in. that describes a cross section of protective coatings which you'll do well to know about. **Daubert Chemical Co.**

... for your copy, circle p. 210

### **Strippable coatings to prevent rust**

Hot-melt protective strippable coatings prevent rust. Just how effectively is detailed in a six-page fold out on application data and physical properties. Parts which are especially adaptable to dipping are listed on page 2. Then there's a price-list on strippable coatings and a pamphlet on Maskcoat for fast efficient masking jobs. **Western Coating Co.**

... for your copy, circle p. 211

### **12-pager details protective coatings**

Corrosion is a special problem, and it has to be treated as such from the beginning. This 12-pager is packed with pictures, specs and data on Bitumastic coatings that have been tried and proved to protect metal surfaces under a variety of adverse conditions. Blast furnaces and stoves, piping, sewage plants, dye tanks and high temperature stacks are only a few of the surfaces coated (and pictured) in this fact-filled booklet. **Koppers Co., Inc.**

... for your copy, circle p. 212

### All about Duraflor, Hornflex, Super-Bondosit

A Duraflor data sheet tells what this epoxy coating is, what it does, how it's applied and other pertinent points about this chemical and corrosion resistant product. Another two-page piece brings you facts on Hornflex Thiokol caulking compound, detailing its properties, uses, application and advantages. The third offering from this firm is a four-page description of Super-Bondosit, a concrete topping that requires no surface roughening, wet curing, finishing delay and no more than a  $\frac{1}{4}$ -in. thickness. Four picture case histories illustrate advantages of this white liquid latex emulsion added to cement floor topping mixtures. A. C. Horn Co., Inc.

... for your copy, circle p. 213

### Paints for protection and decoration

Color is the key word to four books on paint and their uses. A 32-page catalog is packed with page after page of sample squares in every shade imaginable, with diagrams to illustrate applications. Aluminum, asphalt, enamel, chemical coatings, masonry paint and a host of other paints jump from the pages in brighter and brighter array. Three fold-outs illustrate toughness, beauty, and practical characteristics of Valdura paints. Valdura Division, American-Marietta Co.

... for your copy, circle p. 214

### Data sheets on organic finishes

"A Better Bond for Organic Finishes" is the title of this 6-page folder describing the Turcoat line of phosphate coatings. It includes a valuable phosphating reference chart, while another 4-page folder describes the complete Turco line of deflocculators, masking materials and other items for maintenance of water-wash paint spray booths. Turco Products Inc.

... for your copy, circle p. 215

### Fact-packed data on clear aluminum coating

Clear Butyrate lacquer for coating exterior aluminum surfaces was the subject of industrial salesman's bulletin No. 29 ... but because the lacquer fell short of meeting the requirements of manufacturers of aluminum sash, a new coating—167-C-189—was developed.

The story of this development and properties of the new product are the subject of the most recent industrial salesman's bulletin No. 33. Tests were conducted under the headings: appearance, clarity, viscosity, non-volatility, sprayability, pencil hardness, adhesion to structural aluminum and foil, salt spray resistance, and mortar resistance. What were these discoveries? ... get your free copy and find out. They're really worth knowing about. W. P. Fuller & Co.

... for your copy, circle p. 216

## Lubricants & Equipment

### 48-page manual on fluids and lubricants

Properties, uses, and characteristics of Ucon polyalkylene glycol-type fluids and lubricants are covered in this manual. High temperature lubricants, compressor, gear, and engine lubricants lead into metal working fluids, hydraulic fluids and tables illustrating effects on rubber and solubilities etc. An additional 12-pager details Ucon's fire-resistant hydraulic fluids. Carboide and Carbon Chemicals Co., a division of Union Carbide Corp.

... for your copy, circle p. 217

### Guide for selecting lubricating devices

Two pages of data and illustrations about hydrostatic lubricators for steam service, air compressors, gas engines, oil cups and grease cups combine with a 4-page brochure on constant level oil control. Both are packed with pictures, specs and data. The Lunkenheimer Co.

... for your copy, circle p. 218

### How to plan and use centralized lubrication

This 36-pager introduces a new midget-size centralized lubrication system. Alemite "Accumite" is an accurate, low pressure, positive displacement type, miniature lubrication system. It eliminates shutdown for lubrication, prevents bearing trouble and reduces multiple lubrication points to one. Alemite, a division of Stewart-Warner Corp.

... for your copy, circle p. 219

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2½ Times  
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costs — because  
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*twice as  
fast . . .*



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216 11th Street  
San Francisco 3, Calif.

### Finger-tip facts on industrial lubrication

Plant managers, master mechanics, maintenance engineers and you, sir . . . there are some basic facts you should know in this 16 page, 8 1/2 x 11 in. booklet on lubrication in industry. Think you know all the answers? . . . look at that list of grease types on page 2 and the recommendations on pages 8 and 9. There's a lot you'll learn about really basic lubrication facts. Included are two fold-outs, one detailing advantages of Lubriplate in grease gun cartridges and the other covering the application of construction machinery lubricants. Fiske Bros. Refining Co.

. . . for your copy, circle p. 220

### Facts on oil that unchained diesel power

First successful compounded heavy-duty oil for diesel engines was developed 20 years ago, making possible the operation of all diesel engines at higher loads and with greater economy than obtainable with conventional oils. This 32-page handbook is designed to give complete technical information about the product that unchained diesel power . . . RPM DELO Oil. Pictures, charts, specs and graphs help in telling this colorful story. There is in addition a 54-page handbook guide to industrial oils, indexed under product and including a description of each product. Standard Oil Co. of California, Western Operations, Inc.

. . . for your copy, circle p. 221

### Application guide to specialized lubricants

The purpose of this 30-page guide is to present in easily accessible form recommendations covering the lubrication of industrial machinery. Products are grouped according to type or purpose, rather than by name or number. Product index facilitates using the guide. Illustrations and charts add to the effectiveness of this source book for selecting the right lubricant for the right job. Keystone Lubricating Co.

. . . for your copy, circle p. 222

### Application guide to planned lubrication

Lubricating devices are the subject of this 28-page catalog, and it's very comprehensively covered. The index, page 3, will open your eyes with fact-packed listings of oil hole covers, oil cups, constant level oilers, vibrating rod oilers, transparent oilers, oil gages, grease cups, air line lubricators, and shaft seals. Specs, charts, diagrams, cutaways and color combine to give you a very thorough look at what's available in the field of lubricating devices. Gits Bros. Mfg. Co.

. . . for your copy, circle p. 223

### Catalogs detail portable field lubricating equipment

No. 701, first of five available catalogs, describes complete portable field lubricating equipment which can be assembled to fit specific requirements and adapted for a selection of lubrication accessories (also listed in this 25-pager.) Detailed "job planned" convoy lube diagrams, with complete bills of materials, are included as a step-by-step aid to assembling. The second catalog, a 32-page manual featuring automatic and air-powered industrial lubricating equipment, paint and mastic spray units, includes the new Fire-Ball series high pressure lube supply pumps. Gray Co., Inc.

. . . for your copy, circle p. 224

### Portable unit handles oils and solvents

Getting oils and solvents out of a machine can prove a messy, time-consuming task, one made very much easier by Mayhew's portable units designed for getting oils and solvents in or out of reservoirs and tanks easily. This 4-page fold-out pictures the units in actual use. Mayhew Products Co.

. . . for your copy, circle p. 225

### Molub-Alloy creates lubrication through metallurgy

A metallic solid lubricant, Molub-Alloy actually "plates" metal surfaces. This 8-page booklet details its uses and value . . . it reduces maintenance costs by cutting lubrications required, and consequently, man hours. Oils and gear oils, outside gear greases and spindle oils are all detailed, with the final page answering the questions "What is viscosity?" and "How does Molub-Alloy differ from other lubricants?" Read it and find out. Imperial Oil and Grease Co.

. . . for your copy, circle p. 226

#### Details on centralized air-borne lubrication

This fold-out focuses on a case study of air-borne lubrication in action. Using Norgren micro-fog lubrication on new twin cooling beds at the CF&I Pueblo Rod Mill solved what might have proved a head-thumping problem. Lubricating line shafts, kick-offs, lifters, shuffle bars, table rollers and gearing which handles 240-ft. red hot bars, was made easy by using four large capacity, 1,000-bearing-in, lubrication units. Read about it on the back page . . . it'll really open your eyes. **C. A. Norgren Co.**

. . . for your copy, circle p. 227

#### 14 reports focus on latest in lubrication

Here are 14 sheets of finger-tip facts on lubricating equipment you should have constantly in mind . . . and you will after reading the concise reports on lubricating punch presses, boring mills, and gas engine cylinders, to mention a few. Specs and charts are here to give you a complete look at pneumatic spray systems, precision drop oilers, etc. These reports not only cover new equipment, but also their application. **Oil-Rite Corp.**

. . . for your copy, circle p. 228

#### Lubricant application devices, accessories

The index on the cover of catalog 92 gives you a visual idea of what's to be found on its 20 pages . . . and it covers a range of devices from hydraulic surface-check fittings to multi-luber and power drive systems. Blue prints and cutaways give depth to a comprehensive coverage of lube fittings. Two other bulletins, 806-R and 682, tell the story of automated power-drive centralized lubrication and precision measuring valve systems. **Lincoln Engineering Co., Division of the McNeil Machine & Engineering Co.**

. . . for your copy, circle p. 229

#### Wax requirements tailored for you at no extra cost

In this beautifully printed booklet, the Union Oil Company introduces you to Aristowax . . . and by just glancing at the property charts and viscosity temperature tables at the back, you'll see it's a product you should know about. In-action pictures dramatically illustrate the many uses of wax in industry today. Another booklet, an 8-pager, is devoted to cutting oils, while a third describes the principal lubricating oils, greases and technical products marketed by Union Oil. You could use this in your reference files. **Union Oil of California.**

. . . for your copy, circle p. 230

#### Three catalogs detail lubricant dispensing

Principles of operation, product advantages and system components are packed into the 20 pages of Bulletin 26-S, on centralized systems of lubrication. Filled with pictures, diagrams and cutaways in color, the descriptive copy makes the value of this lubricating system crystal clear. MultiVal, a low-cost "abbreviated" centralized system of lubrication is described in the eight pages of bulletin 16, complete with cutaways and application photos. Spray lubrication is the subject of an additional brochure, 60-A. **The Farva' Co.**

. . . for your copy, circle p. 231

#### Bulletin on oiled air for pneumatic tools

Only two pages involved here, but they're both fact-packed with operating principles, applications and specs to give a complete picture of a lubricator which supplies oiled air for pneumatic tools, and a high pressure air and gas line lubricator. What is oiled air? . . . a real money saver in the lubrication field. Get this pamphlet and see for yourself. **The Rucker Co.**

. . . for your copy, circle p. 232

#### Solid film lubricants compounded to ease problems

Electrofilm compounds are mixtures of micron-size lubricant particles blended with thermosetting resins and ceramic binders to form a stable, bonded-to-the-surface, solid film lubricant . . . for use on all metals and their alloys. Learn about them in this attractive 16-pager which provides all details. **Electrofilm Inc.**

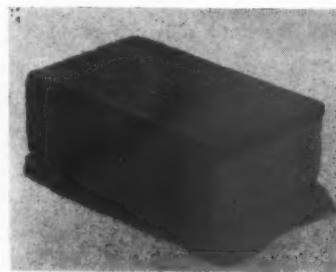
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## No more dust from concrete floors — ever!



## JUST "ONCE OVER" WITH WATCO CONCRETE HARDENER

binds new or old concrete into a non-dusting, non-porous, tough, wear-resisting floor. Stops dust for the life of the floor.



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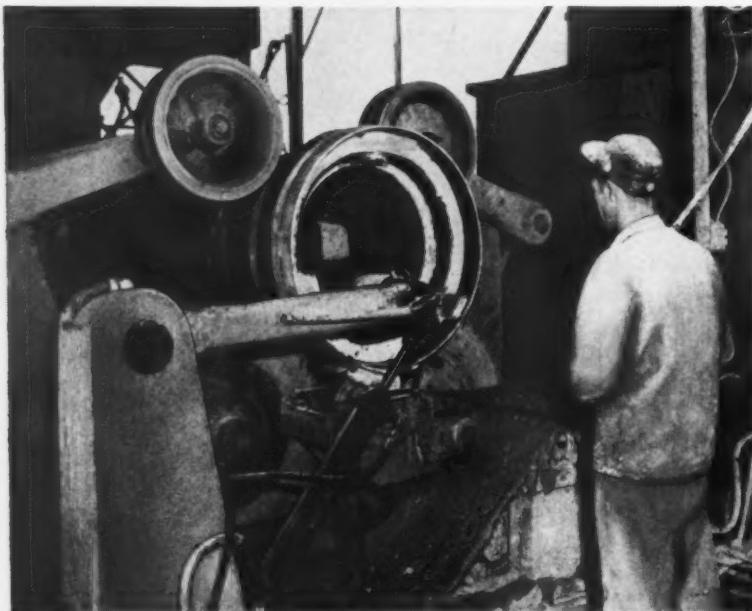
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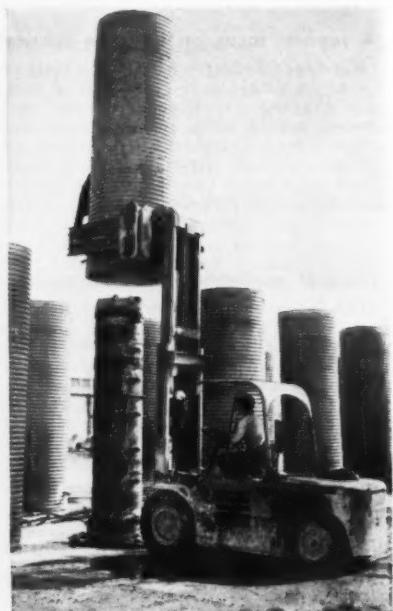
STANDARD ENGINEER'S  
FIELD REPORT

CHEVRON  
PRODUCT OC TURBINE OIL  
UTAH CONCRETE PIPE CO.  
FIRM Salt Lake City, Utah

## Hydraulic systems rust-free after 2 years



**Using Chevron OC Turbine Oil**, the 15 hydraulic cylinders controlling this CEN-VI-RO Concrete pipe machine (above) show no sign of rust or pitting after two years' tough service. Utah Concrete Pipe Co. produces high-strength pipe in diameters up to 48" with this centrifugal-vibration-rolling machine—turns out 50, 10-foot lengths daily. Individual lengths weigh up to 8,400 lbs. While mold rotates, hydraulic cylinders using Chevron OC Turbine Oil (formerly Calol) hold mold against driving wheels, force concrete mixture around reinforcing rods, vibrate mold to compact concrete.



**Specially Rigged Trucks** simplify handling of heavy pipe, molds, and steel jackets used for steam-curing. Combined weight of pipe and mold often exceeds 7 tons. Model 80 Hyster (above) has had no hydraulic system trouble in over 5,000 hours operation using Chevron OC Turbine Oil. All firm's trucks use this hydraulic fluid.



**Plant Supervisor Dick Davis**, points to one of machine's hydraulically operated eccentric vibrator wheels. "We're well satisfied with the performance of Chevron OC Turbine Oil," reports Mr. Davis. "In both our pipe machines and our fork trucks it's kept hydraulic cylinders working smoothly and reliably in spite of the heavy loads, grit, and moisture in our type of operation."



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**STANDARD OIL COMPANY OF CALIFORNIA**

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WESTERN INDUSTRY — June 1958

# HELPFUL LITERATURE

for the West's plant  
operating executives

FOR YOUR FREE COPIES, circle appropriate key numbers on postcard, page 77

## Here's your guide to award-winning packaging

You'll find that the 12 pages of this industrial fiber board manual will serve as your guide to award-winning packaging (as testified to by honors won in the recent SIPMHE competition). Open it and start where the sign points to "Greater product protection at lower packaging costs." Then follow the markers through these applications: Commercial, Automotive, Industrial, Electronic, Material Handling. You'll find the way smoothed out with descriptive pictures and easy-to-follow text. **The Celotex Corporation.**

... for your copy, circle No. 250

## Man-sized catalog is material handling "must"

Look at it up-side-down — any way you please — this tab-indexed, illustrated, man-sized handling catalog is one publication you'll be really glad to get. Complete data on fork, power, hand and platform trucks, portable elevators, hoists and cranes, pallet racks, dockboards, conveyors, ladders, wheels and casters . . . even tote boxes . . . is ready for your digestion. Blue prints, spec charts, and graphs vie for your attention. And if the back page on power and gravity conveyors doesn't get it, you ain't a practical-thinking man. **Hammerslag Equipment Co.**

... for your copy, circle No. 251

## 52 fact-filled pages on curing handling headaches

Lift that load, and what do you get? . . . one day younger and clear out of debt . . . if you dig into this 52-page fact-filled manual on relieving lifting, loading and material handling headaches. Case studies, blue prints, specs, questions and answers . . . loads of them, are right here between these eye-catching orange covers. There's even a lift to get you in and out the bath tub. Read it. **Globe Hoist Co.**

... for your copy, circle No. 252

## How to speed your piercing operations

Cutting holes in the right places can be a problem . . . but after reading this beautifully illustrated, fact-packed manual, it's one that shouldn't bother you again. Can you produce 90 mounting brackets from one pierced sheet at a rate of 17 seconds per bracket? Look on page 2 and you'll see actual pictures of how to perform such a feat. Precision is the key word and you'll get it — plus speed — by using quick change die holders like those illustrated on page 10. Available through **Star Machinery Co.**

... for your copy, circle No. 253

## This ready-made hole can be your lifesaver

Why pay for material you don't use? That's what this booklet asks . . . then goes on to show you how these steel hollow bars with the ready-made hole will increase production while reducing labor and handling costs. All important factors are spelled out in easy-to-scan charts. A quick glimpse at them will tell you what you want to know about analysis, sizes, lengths, tolerances, weldability, stainless stock, eccentricity, mechanical properties, tough hardening, etc. And this material is available right in the West (see story in news section). **Sandvik Steel, Inc.**

... for your copy, circle No. 254

## "Live storage" described in colorful fold-out

This eye-catching two-color brochure pictorially details how Flow Racks (they really flow, too) add "life" to storage. Material is inserted into charging side of flow rack and moves to the selection side by gravity flow. A smooth, efficient, controlled flow of accumulated materials through manufacturing and warehouse operations is the result. You could use it. **The Rapids-Standard Co., Inc.**

... for your copy, circle No. 255

## Magnetic drives — shockless, vibrationless

Perpetual motion may be a long way from reality, but here's a means of transmitting power that never wears out. Detailed in this 8-page bulletin is a go-between connecting motor and machine. Two rotors, one magnetic, protect equipment from sudden, shock-loaded starts and stops while retaining high efficiency at rated horsepower. Operating curve, output torque rating chart and selection charts, as well as diagrams and specs add up to a bulletin you should have in your files. **Whitney Chain Co.**

... for your copy, circle No. 256

## Complete catalog of unbreakable jaw couplings

If you've got power you use couplings. And this 12-page booklet's full of a variety of kinds it'd pay you to know about. Fixed bore, sleeve and rigid, flexible, jaw type and chain couplings are pictured and presented as cutaways to show you what's inside. It's worth looking into, especially the data on page 11. **Browning Manufacturing Co.**

... for your copy, circle No. 257

## Built-in guarantee for aluminum castings

You can find out how the new Supercast process has overcome the drawbacks previously associated with aluminum castings to make these castings stronger — approaching more closely the tensile and yield strength and elongation of wrought or forged aluminum. The brochure also points out how the inherent weakness of thicker sections of the casting has been eliminated. Proof positive is offered in a comparison chart of Supercast guaranteed minimums. Supercast wins out . . . and the booklet tells how it can win out for you! **Arwood Precision Casting Corp.**

... for your copy, circle No. 258

### **Introduction to elements of steel casting process**

A real source book on steel casting design, this illustrated, diagram-filled 34-pager is a gold mine of solid facts-you-should-know. Why should designers be concerned with steel casting? . . . What should they know about such casting? The answers, on pages 1 and 2, are just the beginning of a book you won't be able (and can't afford) to put down. **Pacific Steel Casting Co.**

... for your copy, circle No. 259

### **Flexible tubing — most versatile ducting**

They call it SPIRATUBE . . . and it's the newest type of flexible ducting. Light, highly retractable, non-collapsible, non-kinkable and with real flexibility — you can install it yourself. Where can you use it? . . . that's the subject of this illustrated fold-out. Check the back page, there's more detailed literature listed and it's available free. **Flexible Tubing Corp.**

... for your copy, circle No. 260

### **All about regulators for reducing pressure**

Construction, applications and features of this equipment are packed into this 8-page catalog along with flow tables for air, steam and water capacity. All the information you'll need for ordering in this line of small size, large capacity, self-contained pressure reducing regulators, is between these pages. **Fisher Governor Co.**

... for your copy, circle No. 261

### **How one man can load in less than 2 minutes**

Sounds fantastic, but this booklet tells and shows you how one man can load in less than two minutes with this Wonderlift. Pictures show loading and unloading of everything from heavy equipment to bulk packages. And this Wonderlift is shown doing its whole bag of tricks — lowering to ground level . . . raising to dock level . . . tilting and dumping. Yes, for time and cost saving in material handling — take a look at this baby! **Wonderlift Trailers,**

... for your copy, circle No. 262

### **New molding technique detailed in 16-page brochure**

Case histories drive home to you the advantages of a new injection molding technique for thermoplastic materials. Larger, deeper pieces can be molded on smaller machines while reducing the molding cycle as much as one third. The method produces better physical properties and improves shock impact strength. Costs are cut due to decreased scrap losses, reduced finishing costs and . . . well, you read it to find a load of savings. **W. R. Grace & Co. Polymer Chemicals Division.**

... for your copy, circle No. 263

### **Chemical milling — more strength, less weight**

This is a first. Illustrated in color, its 30 fact-packed pages focus sharply on chemical and metal finishing, a new process now replacing many conventional milling operations. Engineering data and information on the Dew and HAE process, color anodizing and vacuum cadmium plating (only process that eliminates hydrogen embrittlement,) are tucked tightly into this very readable booklet. And pictures are real eye-stoppers. **Anadite, Inc.**

... for your copy, circle No. 264

### **Complete 20-page bulletin on line of overhead cranes**

Double girder and single girder travelling cranes in both top-running and underhung designs are only a part of the overhead materials handling system detailed in this 20-pager. Motor-driven and hand-gear models in capacities ranging from 1,000 to 20,000 lbs. are catalogued with full specs on clearance, spans, capacities and weights. **Robbins & Myers, Inc.**

... for your copy, circle No. 265

### **New guide to material handling methods**

Man, you can move most anything on the handling equipment featured in this eight-pager. And the pictures have got real life. You'll watch scrap removal, feed conveyors and steel belts sweat it out. But keep some sit-down time for pages 6 and 7, they'll really set you thinking. **May-Fran Engineering, Inc.**

... for your copy, circle No. 266

### **64 pages of data sheets on plastic tubing**

There's no fussin' in this catalog on plastic sheets, rods, tubes, films and lay-flat tubing. You're in business right away. Sizes, weights, color ranges, textures, purchasing specs etc., are clearly listed. The comparison table on page 2 makes for easy price, and properties comparison of acetate, acrylic, butyrate, implex and a host of other extruded and laminated shapes. Look at page 63 . . . isn't that something? **Cadillac Plastic and Chemical Co.**

... for your copy, circle No. 267

### **Bulk handling problems solved for you**

Here's a brief fold-out introduction to a firm that specializes in bulk material handling. It's not all talk, there are real action shots of previous installations in operation. They've cured a lot of other people's headaches from handlingitis . . . why not yours? **Baymar Pacific Inc.**

... for your copy, circle No. 268

### **Guide to coated fabric work gloves for industry**

There's a chart on the back page of this colorful brochure detailing the reaction of glove materials to chemical action. And inside the covers are a variety of styles and materials for all kinds of industrial uses. Gloves for every possible project . . . and they all insure complete comfort and protection. **The Granet Corp.**

... for your copy, circle No. 269

### **44 page guide to extruded shapes**

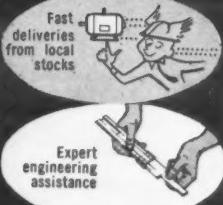
This 3-color, spiral-bound booklet, "Revere Extruded Shapes," is jammed with pictures, charts and technical data as well as 16 case histories illustrating cost advantages of extruded shapes. You engineers—yes, you—look at those drawings in profile, tables of comparative properties of copper-base alloys and descriptive data on high conductivity copper bus channels and angles. And how about page 15. How's that for an unusual effect? **Revere Copper and Brass Inc.**

... for your copy, circle No. 270

# NOW OPEN IN LOS ANGELES



LOUIS ALLIS CO.



## **new and larger Louis Allis headquarters**

**to provide you with faster delivery of electric motors and drives  
... and on-the-spot help by expert application engineers!**

If you need a motor today — you can get it today! The new Louis Allis office and warehouse in Los Angeles offers you this new, fast service from an extra large stock of motors in a wide range of enclosures. A quick phone call to ANgelus 8-3621, and your motor is on its way for quick delivery anywhere in Los Angeles or southern California!

If you haven't already received our stock list, call for a copy to keep handy. It shows you what's available for delivery *now!*

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engineers can analyze your specific motor and drive needs — and recommend the equipment that will do the job at the lowest possible cost to you.

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So remember, your best source in the Los Angeles area for standard or special electric motors and drives, including close-coupled, vertical hollow and solid shaft pump drives is The Louis Allis Co., 4415 East Olympic Boulevard, Los Angeles, California. Phone: ANgelus 8-3621.

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MANUFACTURER OF ELECTRIC MOTORS AND ADJUSTABLE SPEED DRIVES  
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... for more details, circle No. 37 on Reader Service Postcard

**ORDER  
DESK  
PLEASE...**

Your familiar request for the Order Desk starts steel products moving at PATCO—dependably, immediately.

Things like long cold drawn seamless steel tubing in straight lengths up to 58'; carbon, alloy and stainless steel tubing in many analyses and a wide size range; cold drawn bars; ground and polished shafting...

Buyers, like you, know that PATCO has proven over and over that it can be depended upon to make prompt deliveries of prime quality and precision controlled products. If you need metallurgical or application assistance, PATCO engineers are ready to help you.

The next time you need Carbon, Alloy or Stainless Tubing, Cold Finished Bars, or Ground and Polished Shafting, phone your Steel Service Center—and ask for PATCO products.

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5710 Smithway St., Los Angeles 22, California • Phone: RAYmond 3-1331  
Western Representatives for Superior Tube Company

**AMERICAN STEEL  
WAREHOUSE ASSN**

... for more details, circle No. 38 on Reader Service Postcard

**Layout tracers free  
just for the asking**

Gentlemen, stop right here. Look, a special envelope with 8 cards (16 sides) and full directions on how to use handy layout tracers. They're outlines of various units of Hannifin Crown Line filters, regulators, lubricators and accessories starkly outlined on permanent cards which can be slipped under a tracing. Those matching holes in each card make it easy to keep the set within easy reach at the drawing board. For your copy, request on company letterhead: H. J. Andresen, Hannifin Co., 652 South Wolf Road, Des Plaines, Ill.

**Paraflo combines both  
lighting and ventilation**

Poor lighting means poor products. This 4-page Paraflo fold-out shows you how to combine good lighting and air distribution in one attractive unit. With the fold-out is a 12-page diagram-filled, dimension-laden close-up of surface lighting elements, and a booklet on lowering construction costs through the careful use of modular components.

**Day-Brite  
Lighting Co.**

... for your copy, circle No. 271

**Switch from fork lift  
to dump hopper is easy**

When is a fork lift more than it seems? When it's a "Moto-Bug." This illustrated fold-out waves a wand and a 1,500-lb. capacity fork changes to an 18-cu. ft. 3,000-lb.-capacity gravity dump hopper or a 42 x 59-in. platform deck. Add an automatic coupler and what does it turn into...? Don't guess, read and find out. And while you're at it get the R10 and R18 dimension sheets.

**Kwik-Mix Co.**

... for your copy, circle No. 272

**Block breakage slashed  
in Browning bearing unit**

Pillow blocks, ball bearings and flange blocks are key words in this 12-page, illustrated booklet. Diagrams, specs and charts combine with list prices and comparison tables to give you a crystal clear look at the latest addition to the Browning bearing unit line.

**Browning Mfg. Co.**

... for your copy, circle No. 273

**Penetrates through rust  
like coffee soaks into a sugar cube!**



How much do you spend on removing rust before you paint? Why not coat right over the sound rusted metal with Rust-Oleum 769 Damp-Proof Red Primer after simple scraping and wire-brushing to remove rust scale and loose rust... saving time, money, and metal! Rust-Oleum's specially-processed fish oil vehicle penetrates\* through rust to bare metal—while the surface film remains *tough, firm, and durable*. You cut costly surface preparations, you receive nearly 30% greater coverage depending upon the condition and porosity of the surface—and you receive the *maximum* in over-the-years protection!

\*As proved by Battelle Memorial Institute Technologists in radioactive tracing studies.

Whatever your color choice may be—Rust-Oleum finish coatings include the color you want. They're manufactured under the same *exclusive* formulation as the Rust-Oleum Primer... they assure you of *greater* compatibility, *double* protection, and *lasting* beauty! The best way to see what Rust-Oleum will do for you is to actually try it yourself... around your plant or home.

See our complete catalog in Sweets, or send the coupon for a free Rust-Oleum Test Sample... one brushful means *more* than a thousand words. Prompt delivery from Industrial Distributor stocks.

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Accept no substitute.

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- Free test sample with complete literature
- 30-page report on Rust-Oleum penetration
- Nearest source of supply

... for more details, circle No. 39 on Reader Service Postcard

# HILL TRANSFORMERS

**will keep presses  
rolling in new  
West Coast  
Printing Plant**



One of five HILL 750 KVA Power Transformers installed at Phillips & Van Orden, San Francisco. Units are 3-phase, 60 cycles, askarel immersed, self-cooled, class OA, 55° C.

To meet printing deadlines requires speed, accuracy and dependability from all equipment... and Hill Transformers were selected as the power source for this ultra-modern new San Francisco plant.

Hill's flexible production schedules enable electrical contractors to meet completion dates on time. And Hill manufacturing to exact design specifications, and to NEMA-ASA standards as well, assures trouble-free performance that "keeps the presses rolling".

Speed, accuracy, dependability. Let Hill help you do a better job with transformers that stay in service!

## • OIL FILLED • ASKAREL • DRY TYPES

Power and distribution transformers are available up through 5000 KVA for every application.

**HILL TRANSFORMER CO., INC.**  
1030 WASHINGTON STREET • SAN CARLOS, CALIF.  
Available through leading electrical wholesalers

... for more details, circle No. 40 on Reader Service Postcard



## Save time and money in addressing labels

Addressing shipping labels, tags and cartons can eat up a work day . . . unless you use a system as efficient as that detailed in this fold-out. No extra attachments are needed, just a regular standard typewriter. And there's no extra motion. Type address on invoice, peel off STEN-C-LABL, attach to inked pad and you're in business. The simple process is well illustrated with pictures which tell the complete story. **STEN-C-LABL, Inc.**

... for your copy, circle No. 274

## 132 fact-filled pages on newest conveyor belts

This superb book has everything . . . pictures, cutaways, diagrams, charts, specs, close-ups, engineering formulae . . . the whole story of conveyor belts is packed between those striking blue covers. Page after page of action studies of belt installations, production diagrams and layout blue prints. Man, it just goes on and on. Look at those questionnaires at the back. This kind of reference book comes only once in a blue moon . . . and this one's free. **The Cambridge Wire Cloth Co.**

... for your copy, circle No. 275

## How to control atmosphere dewpoint

Modern methods of maintaining accurate automatic control of dewpoint and/or carbon potential in endothermic type atmospheres for clean, scale-free carburizing are discussed in this 2-page bulletin. How Dewtronik and Carbotronik instruments work is illustrated by a circuit diagram as well as spec tables, dimensions and shipping weights. **Ipsen Industries, Inc.**

... for your copy, circle No. 276

## New catalog details latest signaling devices

You'll get the message clear as a bell (or an air whistle) from this 24-page catalog on the latest in internal communication systems. Stations with capacities of from 10 to 90 coded calls vie for your attention among bells, air whistles and chimes. Pictures, blueprints and specs add depth to a vibrant reading experience. **The Autocall Co.**

... for your copy, circle No. 277

# NEW YALE INDUSTRIAL TRACTOR SHOVEL



## Carries more tonnage every hour —field tests prove it!

Actual field tests prove the amazing work-capacity of the new Yale Industrial Tractor Shovel. Extra tonnage—extra work—extra duty cycles! Operating acceleration speed is 8 mph in 3.5 seconds. And Yale's exclusive fully automatic Torque Transmission produces quicker, smoother starting, more power under load conditions.

Loader-linkage advantages are unique. Exclusive 45° ground-level tipback provides top loading action, minimum spillage in grade-level position. Exclusive 6' dumping

clearance (highest on any model of similar wheelbase) automatically returns bucket from full dump position to dig position.

Let your operator work with it. He'll like the roomy, clear cockpit—the finger-tip controls—the ease of handling—the fact that there are no gears to shift. He'll especially like Yale's exclusive Safety-Curve Arms—that never rise above the side frame to cause injury. For a demonstration in your plant or further data write The Yale & Towne Manufacturing Co., Philadelphia, Pa., Dept. A-266.

### COMPARE THESE YALE FEATURES:

- Exclusive Yale Torque Transmission (fully automatic)
- Exclusive 45° ground-level bucket tipback
- Exclusive 6' dumping clearance
- Exclusive Safety-Curve Arms
- Exclusive acceleration speed to 8 mph. in 3.5 sec.
- Exclusive sealed brakes
- Exclusive forward and rear operating lights
- 2500 lbs. carrying capacity
- Short wheelbase for minimum turning radius
- Gasoline or LP-Gas powered

**YALE\***  
\*REG. U.S. PAT. OFF.

INDUSTRIAL LIFT TRUCKS & TRACTOR SHOVELS • HOISTS

**YALE & TOWNE**

GASOLINE, ELECTRIC, DIESEL & LP-GAS INDUSTRIAL LIFT TRUCKS • WORKSAVERS  
WAREHOUSERS • HAND TRUCKS • INDUSTRIAL TRACTOR SHOVELS • HAND AND ELECTRIC HOISTS

YALE MATERIALS HANDLING DIVISION. THE YALE & TOWNE MANUFACTURING CO. MANUFACTURING PLANTS: PHILADELPHIA, PA.; SAN LEANDRO, CALIF.; FORREST CITY, ARK.

... for more details, circle No. 41 on Reader Service Postcard



- Feeder Unit powered by 1/4 hp 115 volt AC motor
- Adjustable Frame Support and Strap Chute Sections
- Foot Switch
- Signode Model DF20 Strap Dispenser

## New Signode power strap feeder puts strapping around big packages fast

Another "stand and wait" job hits the skids! Now, for the first time, one man straps big packages without a helper and without walking around the package. The new Signode power strap feeder applies 200 or more straps per hour to big packages. Only eight to ten seconds are needed to apply one strap to the container above.

Cost of the equipment is modest, yet it handles a wide range of package shapes and sizes. Components are shipped ready for assembly, tailored to your needs. The new Model PSF-1 can be used with any

Signode seal feed tool—hand, pneumatic, or electric—mounted in a tool balancer. Strapping may be fed either up or down. The feeder will take any one size of any kind of Signode strapping  $\frac{3}{4}$ " or smaller. Strap size adjustment is simple.

The PSF-1 Power Strap Feeder is simple and versatile. It can be inserted into almost any conveyor system or set up in a separate strapping station for unitizing.

For information about this important advancement in strapping speed and ease, call the Signode man near you, or write:



First in steel strapping

### SIGNODE STEEL STRAPPING CO.

2615 North Western Avenue, Chicago 47, Illinois  
Loveridge Road, Pittsburg, California • 659 East Gage Avenue, Los Angeles 1  
1519 North West Irving Street, Portland 9 • 617 Paulsen Building, Spokane  
2 Hanford Street, Seattle

... for more details, circle No. 42 on Reader Service Postcard  
WESTERN INDUSTRY — June 1958

### **Selected listing details uses of Western Pine**

Teaching aids, folders, booklets, grade use guides, special books, dealer and consumer publications, technical aids and sales helps are all carefully listed for finger-tip ordering. "Publications You Can Use" means just that . . . you certainly can use them . . . get a listing and see. **Western Pine Association.**

. . . for your copy, circle No. 278

### **How to select, use woven wire slings**

Pictures tell the story in this 20-page booklet on Gripper woven wire slings . . . they take you on jobs where the unit's in use loading bar stock, positioning coiled strip for slitting, moving cold drawn flats. There's a host of dramatic, action-packed illustrations and technical data on page 15 plus charts, specs and blue prints to add the finishing touch to a really practical guide to woven wire slings. **Cambridge Wire Cloth Co.**

. . . for your copy, circle No. 279

### **PVC\* pipe fittings, flanges resist internal corrosion**

You guessed it . . . PVC\* stands for Polyvinyl Chloride . . . and you should see the uses it's being put to. Fittings, flanges and valves are only a few detailed in this 24-pager. Elbows, tees, caps, unions and a whole range of applications are charted, illustrated and presented in a clearly readable fashion. Take a look at the flow-vs.-pressure loss charts on page 20. Page 23 will be a real help in selecting PVC. **Tube Turns Plastics, Inc.**

. . . for your copy, circle No. 280

### **How to cut corrosion by using alloys in valves**

Do you know what the features of the DURCO stainless alloy Y valves include? . . . they're on the cover of this beautifully clear 4 page fold-out. Inside are pictures and cutaways, as well as charts and specs to illustrate such details as disc arrangements, and parts lists. The lower half of this valve can be rotated 180 deg. to make a 90-deg. angle where required by piping layout. Isn't that worth looking into? **The Duriron Company, Inc.**

. . . for your copy, circle No. 281

### **A bright fold-out look at gantries and power scoop**

Flip these data-packed pages just four times and you've covered more than a man reads in a month on gantries and an automatic power scoop. Don't let the slimness fool you. The facts hit home and snappy, on-the-spot action pictures set gantries with 10-ton capacities swinging in front of you while sketches, cutaways and blue-prints of the one-man-power scoop are detailed enough for you to install your own. **Alden Equipment Co.**

. . . for your copy, circle No. 282

### **How to protect your wooden pallets**

"Care for Wooden Pallets Can Control Maintenance Costs to You" is a 16-page pocket book of the major principles for prevention of damage to wooden pallets and what to do to preserve your pallet investment once damage has occurred. Informally presented with many drawings, the booklet divides into rules for care, maintenance and corrective measures. **National Wooden Pallet Manufacturers Assoc.**

. . . for your copy, circle No. 283

### **Introduction to precision lighted pushbutton switches**

Designers, ahoy . . . here's a sea of switches, lamps and buttons to give you real freedom in figuring pushbutton panel layout. Short-stroke momentary, long-stroke momentary, alternate action, two position alternate-action, magnetically held and turn-to-hold switches are described in detail. A special "bailing circuit" diagram on page 5 shows how magnetically held switches can operate in a one-by-one sequence with no mechanical release system. **Micro-Switch, A Division of Minneapolis-Honeywell Regulator Co.**

. . . for your copy, circle No. 284

### **Steel buildings completed under one contract**

The cornerstone of the Empire method is one contract under one supervision. In a 22-page de luxe illustrated booklet, you're carried step by step through services, facilities and industrial buildings to show what steel buildings can mean to you. And look at the colored sheeting on page 17 . . . red, yellow, green, blue . . . wow! But what's that other color? **Empire Steel Buildings Co.**

. . . for your copy, circle No. 285

### **Dynameter takes lab testing into the field**

Pianos go in and out of windows . . . but some industrial materials are just too big to be tested in the largest laboratory. This picture-packed, chart-and spec-loaded booklet has the answer — check it in the field with a traction dynameter. What is it? What's it do? How does it work? What do users think about it? We know, and you can find out by getting the booklet. There's a complete price list on page 3. **W. C. Dillon Co., Inc.**

. . . for your copy, circle No. 286

### **A 36-page special on centralized lubrication**

You'll slip quickly and easily through this colorful 36-page booklet on centralized lubrication. Where to use, what it does and how it works are just stepping stones to system components, pumps, valves, timers, etc. And before you know it, you're poring over the full automatic air system diagrammed on the last three pages. **Alemite, a division of Stewart-Warner.**

. . . for your copy, circle No. 287

### **How to save money by quenching old flames**

Old flames are all the same . . . they burn just as destructively as new ones. More so maybe, because they're bigger. But with Flamort fire retardants, fire hazards are stopped and your property protected by flameproofing. Dramatically illustrated with actual fire test photos, this booklet includes a statement from the Fire Marshall in Amarillo, Tex., about the qualities of fire-retardant coatings. And there are other impressive testimonials, too. Reading them is a case study in how to keep fire out of your plant. **Flamort Chemical Co.**

. . . for your copy, circle No. 288

### **Better products, lower cost with steel castings**

How space-saving dependability was obtained through steel castings is the subject of this illustrated fold-out. A manufacturer shares the secret of how he cut cost and increased efficiency. Look on the back page . . . that added weight you just felt is money in your pocket from just KNOWING. **Pacific Steel Casting Co.**

. . . for your copy, circle No. 289

## for tight weave

Modern looms, correctly crimped filler wires and uniformly strong warp wires produce a tightly woven wire cloth that lends itself to easy fabrication and long service life.



## INDUSTRIAL WIRE CLOTH



## full range of sizes

from 6" openings down to 200 mesh. All commonly used metals, including plain, galvanized, tin-coated and stainless steels; copper, brass, bronze, aluminum, monel, nichrome and inconel. Packaged in cylinders, boxes, crates or on pallets to meet your needs.

For further information . . . write or phone our nearest sales office. Ask for a copy of CF&I's Industrial Wire Cloth Catalog.

6084



## INDUSTRIAL WIRE CLOTH

THE COLORADO FUEL AND IRON CORPORATION

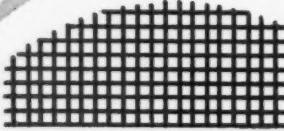
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## for square, even mesh

Precise manufacturing techniques and rigid inspection assures absolute accuracy in sizing—an important factor in most screening operations.



## for fast service

CF&I wire cloth salesmen in 40 strategically located offices from coast to coast are prepared to quote prices within minutes and to offer quick delivery of wire cloth from warehouse stocks.

## Main spring breaks— welding puts truck back on the road

WHAT ARE YOU GOING TO DO when the main spring leaf on your only log-hauling truck breaks and you're faced with considerable down-time?

This is what operators of a remote Colorado sawmill pondered as they looked at their broken-down truck, sagging miserably in a chuck hole.

The nearest town was many miles away and it would take several days to get and install the new part. The only solution? Welding.

"You might be able to weld a spring for a truck that uses only paved roads, but this truck hauls



Arrows point to welded parts

logs over rocks and ditches. A welded spring would break at the first chuck hole," complained one of the men.

But faced with prolonged downtime, the superintendent decided to give welding a whirl.

First step was to chamfer the broken spring edges with Eutec-ChamferTrode, a patented metal-working electrode.

Requirement of a very high tensile strength alloy with superior stress in corrosion resistance on the alloy spring steel called for EutecTrode 680 AC-DC. This patented low-amperage electrode was selected because it is ideal for very high alloy and carbon steels, giving an ultimate tensile strength to 120,000 psi.

Using a stringer bead technique, the spring was well repaired and returned to service. And after several months, the spring is still going strong—over rocky roads.



# 4-WAY VALVE

Pilot-operated, solenoid-controlled  
for hydraulic systems up to 3000 psi



**SHOCKLESS CONTROL** is assured with Denison's new line of 4-Way Valves for any directional control requirement.

Designed to provide directional control of oil flow up to 30 gpm—pressures up to 3000 psi, and all porting and positioning combinations—these new valves offer exceptional design versatility to Hydraulic Engineers because:

1. They meet all JIC requirements.
2. Over-all length is shorter than any other comparable valve.
3. Shortest solenoid power stroke increases operative force.
4. Special built-in check provides pilot pressure without adding another valve to the system.
5. No bulky, external chains to catch on equipment or personnel. Rugged, drawn-steel solenoid covers are secured to body with internal retaining cords.
6. Oil-enclosed solenoids are available.
7. Direct current operation also available.
8. Interchangeable parts simplify service and model changes in the field.

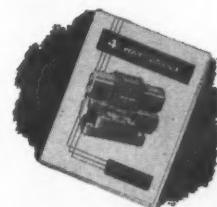
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**DENISON ENGINEERING DIVISION**  
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HYDRAULIC PRESSES • PUMPS • MOTORS • CONTROLS

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# NEW EQUIPMENT

for Western plant operation production, and maintenance

USE RIP OUT POSTCARD, page 77, for more information on products described

## GREASE GUN CARTRIDGE

... saves time, slashes waste



Filling a grease gun by hand is a wasteful, messy and unpleasant job. Now, with the introduction of this cartridge containing Lubriplate No. 630-2—a high temperature, extreme pressure, water repellent grease type lubricant—hand filling is on the way out. Designed to fit all standard cartridge guns, it can be quickly inserted and a standard package contains 10 cartridges in a handy carrying carton. The Lubriplate Division of Fiske Bros. Refining Co.

... for more details, circle No. 300

## SILENT SENTRY KEEPS FIRE WATCH

... warns when container refill needed

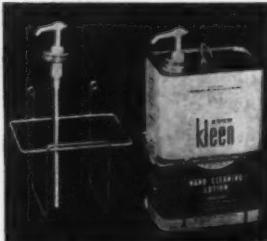


It's more than sad when you try to put out a fire with an empty fire extinguisher... it's costly. And tests prove that many CO<sub>2</sub> bottles lose much of their effective fire-fighting charge within weeks after inspection. But now there's the Silent Sentry, a clearly observable indicator which will register "refill" when a quarter of the bottle charge is lost. Installation is simple and fast, and no separate mountings or brackets are needed. There are no parts to wear and the unit is corrosion and rust proof. Mel-Rod Mfg. Co.

... for more details, circle No. 301

## INDUSTRIAL HAND CLEANER

... solvent-free, lotion type



Employees' morale will soar when they see the handy dispenser containing this new industrial hand cleaner. Because it shows you want to "protect the hands that earn a living." And this solvent-free, lotion-type cleaner—developed with the assistance of the medical departments of major oil companies—will clean and protect hands like no other cleaner. Ever-Kleen will remove engine grease, diesel grime, paints, ink and other industrial grime in a flash. One squirt does the trick... and you get over 1,000 cleanings for each economical gallon. The can is its own dispenser. And the cleaner goes on without water and can be wiped off. All ingredients medically approved. Works equally as well in the shop or office. **Ever-Kleen Products, Inc.**

... for more details, circle No. 302

## EASY-LOAD DRUM CART

... "babies" 55-gallon steel drums



Here's a cart that cradles 55-gal. steel drums and nurses them into vertical position with a minimum of effort. The Easy - Load Drum Cart has many varied uses in all phases of industry. In loading and unloading, cradle is raised to a vertical position and drum is locked to the cradle. Self-seal connectors are screwed into the bungs and the drum is tilted to the horizontal. Suction line to the pump is quickly connected by using a self-seal, quick-connecting fitting. A tow bar-actuated parking brake is mounted on front wheel and the unit can easily be moved by hand or towed by a tractor. John Bean Division of Food Machinery & Chemical Corp.

... for more details, circle No. 303

## "LEAK LOCK" JOINT SEALER

... stops leaks in butane gas lines

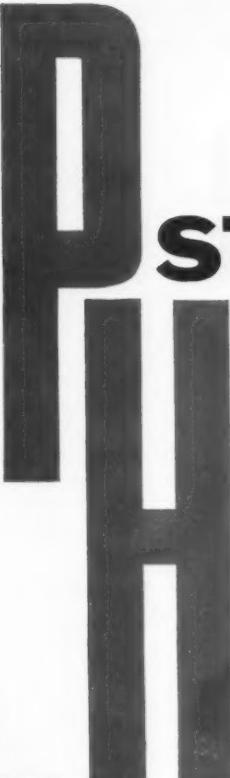


Leak Lock joint sealer has been approved by Underwriters' Laboratories for use in preventing leaks in equipment and lines carrying butane and propane gas. This marks an additional use for a commodity already well established in the prevention of leaks of such reactive substances as gasoline, oil, petro-chemicals and refrigerants. Highside Chemicals, Inc.

... for more details, circle No. 304

**FROM ESCO**

# PH STEELS IN EVERY FORM

**PLUS**   
**TECHNICAL DATA**  
**TO HELP YOU USE IT**

Easily machined and fabricated, Armco Precipitation Hardening grades of stainless steels solve many problems. Low temperature heat treatment following fabrication produces extremely high tensile and compressive strengths at both room and elevated temperatures.

*ESCO* can offer quick delivery of PH steel plate, sheet, bar forging billets, pipe, tube and castings. More important, because of leadership in research of PH steel castings, *ESCO* has a wealth of PH steel technical data available for the asking. Complete information on wrought grades is also available.

Call your nearest *ESCO* representative when you need PH steels or information. Ask him for your copy of Alloy Notebook Number 5 furnishing data on PH steel castings. High alloy steels are *ESCO*'s business.

Armco Licensee



**ELECTRIC STEEL  
FOUNDRY COMPANY**

Member American Steel Warehouse Association

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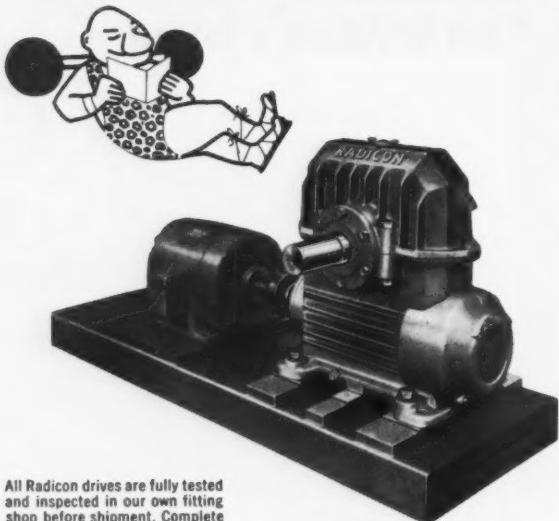
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**Almost Nothing To Do...**

*when you select—*

# RADICON COMPLETE DRIVES



All Radicon drives are fully tested and inspected in our own fitting shop before shipment. Complete Drives are delivered with all lubricants furnished, and ready to set.

Eliminate a major part of your drive design problems—just position the efficient new Radicon Complete Drive, set six bolts, and you're ready to roll!

No need to buy reducers, motors, couplings—then spend time shimming and aligning. Radicon reducers and motors are already carefully shimmed and aligned on heavy fabricated steel base plates, of double box construction, firmly ribbed for rigidity. This means minimum stress at the flexible coupling...long service, low maintenance.

Fan-cooled Radicon Speed Reducers, like the type RHU shown with the above complete drive, are being specified by original equipment manufacturers in many industries these days. They have learned Radicon's ability to withstand extremes of temperature, dust, dirt and rain—all with low initial cost, and low maintenance! Find out for yourself—*write or phone today*.

Immediate delivery 3" to 14", all standard ratios from 5:1 to 60:1. Radicon complete drives supplied by all authorized David Brown factory branches and distributors.



**DAVID BROWN, INC.**

999 Beecher Street, San Leandro, Calif.  
6025 Atlantic Blvd., Maywood, Calif.  
1224 S.W. Morrison St., Portland, Oregon

Gear Products for: Mines, paper and pulp mills, chemical plants, food processors...conveyors, hoists, agitators, screens, deckers, filters, canning machines, and other industrial equipment.

*for more details, circle No. 46 on Reader Service Postcard*

## RUBBER CASTING MATERIAL

*...tougher than metals*



What's that, a rubber casting material that's stronger than many metals? . . . sure, and there's no limit to the shapes it takes. ElastaCAST, a hard liquid urethane rubber was developed for use in industrial parts where high load bearing and long wearing properties are critical requirements. Parts can be cast at atmospheric pressure which makes unnecessary the use of heavy steel molds such as are needed in conventional rubber molding. And ElastaCAST can be bonded to metal and used with or bonded to rigid inserts to provide inexpensive gears, wheels, rollers, platens, etc. **Acushnet Process Co.**

*for more details, circle No. 305 on postcard*

## ELECTRIC HEATING CABLE

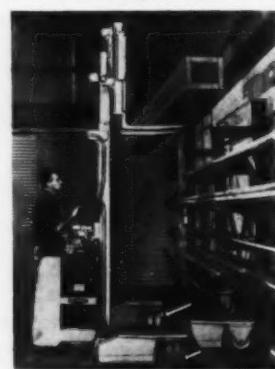
*...permits continued temperatures of 275 deg. F.*

When you want consistent high temperatures for controlling viscosity, chemical action and volatility in fluid—try this new electric heating cable. Manufactured under the trade name "Chromalox Silicone Thermwire", it utilizes the amazing heat-resistant characteristics of silicone rubber to permit continued temperatures of 275 deg. F. Silicone Thermwire is a high quality nichrome resistor heating wire covered with a heavy sheath of flexible heat resisting silicone. It provides a high dielectric strength, excellent resistance to moisture with good corrosion and abrasion qualities. It's easy to install, gives exact heat output desired, low in operating costs. The same style Thermwire in appropriate lengths can be used on 110 or 220 v. a-c. or d-c. supply. **Edward L. Wiegand Co.**

*for more details, circle No. 306 on postcard*

## FOUR-DIRECTIONAL FORK TRUCK

*...for long loads in narrow aisles*

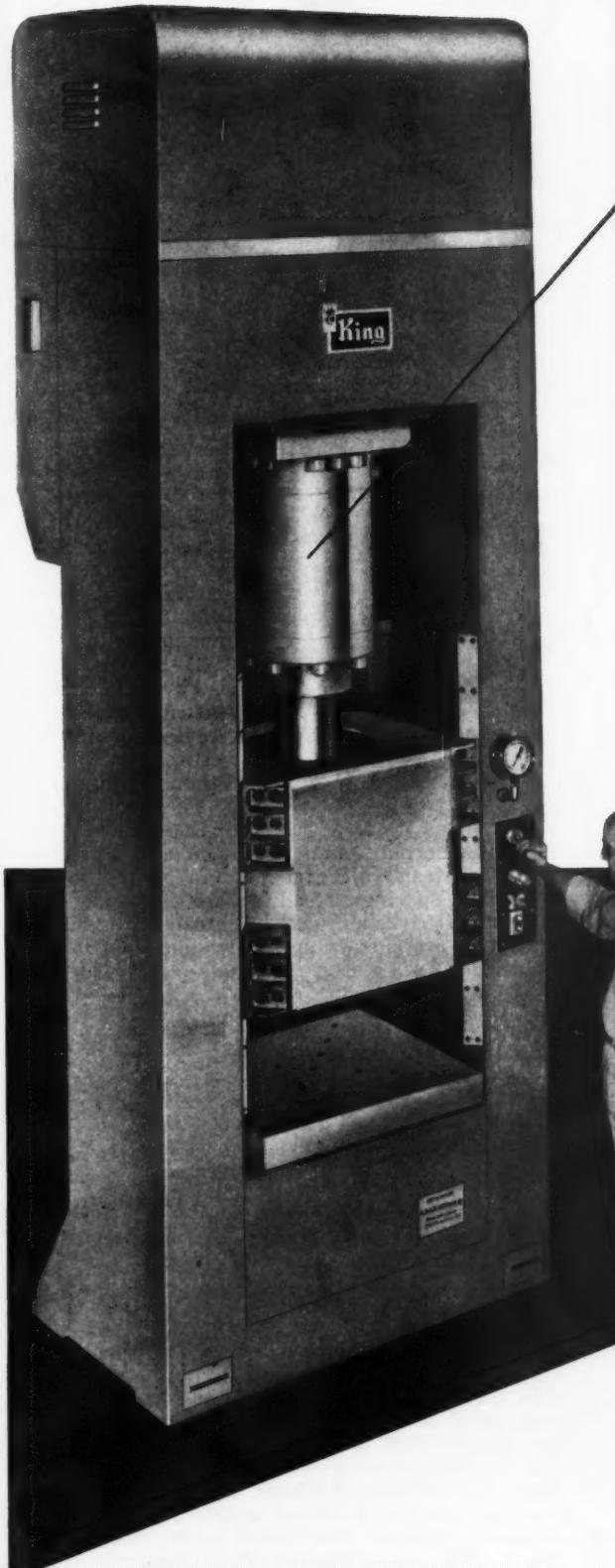


How can you maneuver extremely long loads in narrow aisles? By the use of this extremely maneuverable four-directional fork truck, capable of traveling (1) forward, (2) backward, (3) sideways to the right, (4) sideways to the left—plus having conventional lifting features. This versatility is obtained with a special arrangement of the load

wheels; one load wheel a free swiveling caster and the other hydraulically adjustable by the operator for conventional travel or turned 90 deg. for side travel. Loads 14 ft. or longer can be handled easily in aisles as narrow as 7 ft. Capacities range up to 4,000 lb. **The Raymond Corp.**

*for more details, circle No. 307 on postcard*

*Further proof that  
Ampco does it better at Burbank...*



## Here Ampco Metal lengthens life of cylinder

The large-diameter cylinder in this King Hydraulic Press (capacity, 65-300 tons) has an Ampco Metal inner-liner to protect against excessive wear. Both cylinder and liner are precision machined and shrink-fit assembled.

44 years of know-how equip Ampco's Burbank personnel to meet specialized requirements like this with castings in alloys most foundries shy away from — high-iron aluminum bronze, alloy copper, pure copper, and bronzes hard enough for die work. You specify the size — a few ounces to 5,000 lbs. Complete facilities include pattern shop, sand and centrifugal foundry, machining and forging facilities.

**Ampco at Burbank gives you prompt delivery on**

**Sand castings**      **Centrifugal castings**  
**Machined parts**      **Forgings**

**...and off-the shelf delivery on these Ampco Metal products:**

<b>Ampco Aluminum Bronze</b>	<b>Resistance-welding Products</b>
Sheet and plate	Extruded rod and bar
Cent. cast semi-finished bars	Spot welding electrodes
Extruded rod	Holders and accessories
	Seam welding wheels

The platen in the King Hydraulic Press, built by King Machine & Manufacturing Company, Los Angeles, California is equipped with eight Ampco Metal gibs to maintain perfect alignment.

*Write for Bulletin 73W*



**AMPCO METAL, INC.**

**30 East Burbank Blvd.  
Burbank, California**

MAIN OFFICE AND PLANT: MILWAUKEE 46, WISCONSIN

**SOUTHWEST PLANT: GARLAND (DALLAS COUNTY), TEXAS**

*... for more details, circle No. 47 on Reader Service Postcard*

# FIRE HAZARD NOW REDUCED WITH **NEW PENNZOIL HYDRAULIC FLUID FR**

**Protects Human Life**

In industries where hydraulic fluid is used there are numerous injuries caused by fire when fluid escapes from ruptured lines near molten metal or a furnace.

#### PENNZOIL'S NEW FLUID WILL NOT IGNITE

It will not foam. It is not necessary to install special seals and gaskets nor to purchase specially prepared water for use as make up water when evaporation occurs.

#### WILL NOT CAUSE SKIN IRRITATION

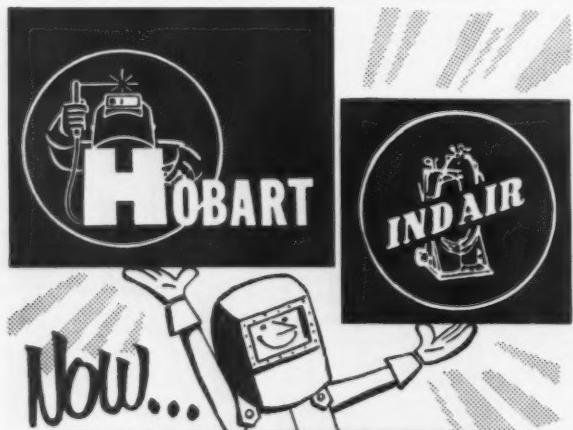
Pennzoil non-flammable hydraulic fluid is highly filterable. Any of the common elements may be used. Write for new Hydraulic Fluid bulletin.

**THE PENNZOIL COMPANY** 942 So. Hope, Los Angeles

Will  
Not  
Ignite



... for more details, circle No. 48 on Reader Service Postcard



## TWO GREAT NAMES TEAMED FOR UNSURPASSED SERVICE!

Now Indair joins with Hobart Bros. as their Northwest distributor, to bring you unexcelled welding products and service. A full line of Hobart products will be maintained by all Indair branches . . . to provide complete service.

**INDUSTRIAL AIR  
PRODUCTS CO.**

PORLAND  
SEATTLE SPOKANE  
MEDFORD YAKIMA  
KENNEWICK

... for more details, circle No. 49 on Reader Service Postcard

## VARI-SPEED MOTOR PULLEY ... for applications from $\frac{1}{2}$ to 15 hp.



Simplicity, precision and lower costs highlight this variable speed Motor Pulley. Called the 90 Series Vari-Speed Motor Pulley, the unit is designed with compact motor bases featuring new precision fit and alignment, and full lubrication

on the shifting screw enabling settings to be made with ease and accuracy. All motor pulley disc assemblies have close grooving lubrication design that maintains a film of lubricant between the hub length of the bore of the sliding disc assembly. The film of lubricant eliminates metal to metal contact, "fretting" corrosion and sticking discs. Reeves Pulley Division, Reliance Electric & Engineering Co.

... for more details, circle No. 310

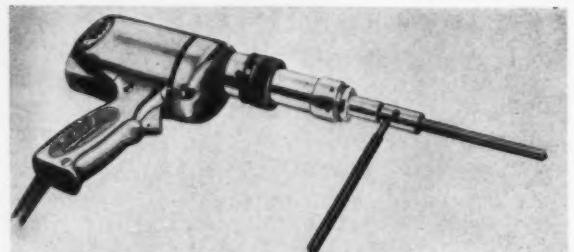
## OPTICAL SCAN-A-SCALE ... for precise linear measurement



viewed at normal reading distance, and a precision engraved steel scale graduated in 50 thousandths of an inch spacings. Readings are direct and independent of backlash, gear or thread wear, oil film thickness, pressure or spring loadings. F. T. Griswold Mfg. Co.

... for more details, circle No. 311

## PORTABLE POWER HAMMER ... blows are custom made

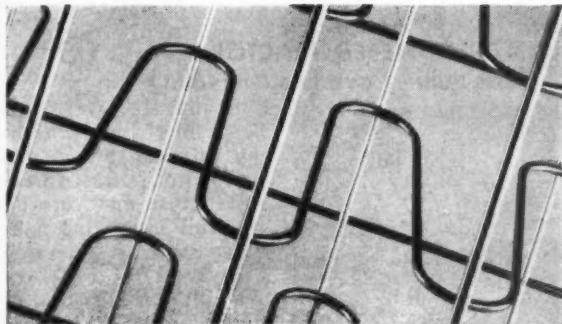


Working power is packed into this portable, lightweight hammer . . . and its blows are adjustable. Tuck-pointing, chiseling and channelling are made easy, and you can drill  $\frac{1}{2}$ -inch holes in average concrete 1-in. deep in 30 seconds. It's foolproof, too. A simple twist of the knurled collar near the chuck end adjusts the blow to suit requirements . . . which include building maintenance, plumbing, anchoring motors, floor work and a variety of others. Milwaukee Electric Tool Corp.

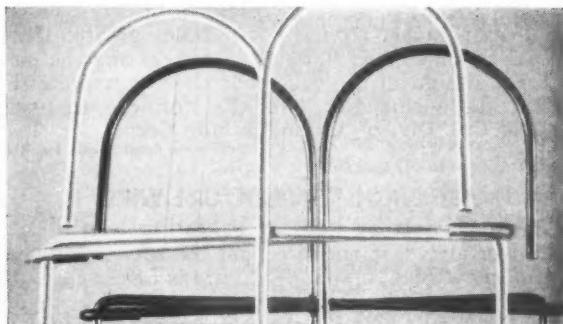
... for more details, circle No. 312

# Wire Experts Quiz

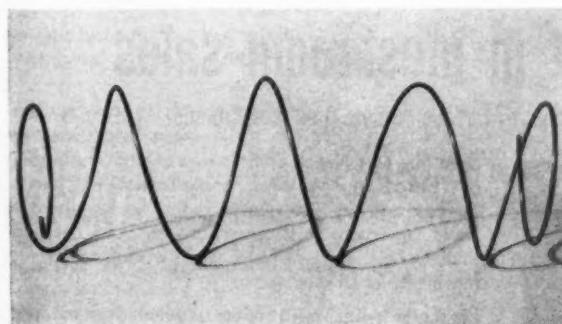
*Can you name the finished product from each of these applications of tailor-made USS Manufacturers' Wire?*



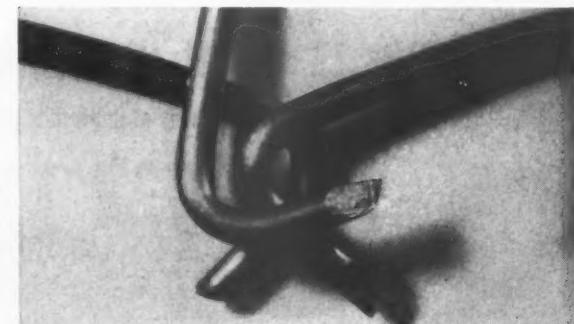
**1** Wire Products Corporation of Los Angeles, California wanted an easy-welding wire, strong enough to carry a heavy load and take rough treatment. Smooth Clean Bright Basic USS Wire met all these requirements...and then some! The product: Soft drink bottle racks.



**3** Fold-a-Fence Corporation of Lake Grove, Oregon needed a strong wire with uniform tensile strength to take 180° bends easily in an automatic machine. USS Bright and Dull Hard Galvanized Soft Basic Industrial Quality Wire, Tight Coat was just right. The product: Ornamental border fences.



**2** Simmons Company of San Francisco, California needed wire of high tensile strength and load-carrying capacity. USS metallurgists developed an entirely new grade of wire to meet specifications for the unique design of the company's most famous product: Beautyrest Mattress springs.



**4** Powers Wire Products Company of Monterey Park, California called for a wire of uniform temper, stiff enough to drive and strong enough to clinch. USS Clean Bright Basic Wire solved the problem efficiently and economically. The product: Clip to attach fabric to metal.

Are you using the right wire for your production needs? USS metallurgists are constantly tailoring new wire for Western industry. For a review of your wire requirements (no obligation, of course), write our Wire Service Dept. WI-6, Room 1260, 120 Montgomery Street, San Francisco 6.

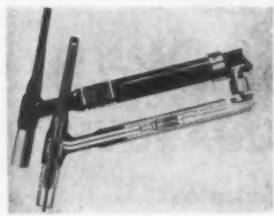


**Columbia-Geneva Steel**  
Division of  
**United States Steel**

... for more details, circle No. 50 on Reader Service Postcard

## HELIARC WELDING TORCH

... features cooling water passages



Complete freedom from leakage is assured in this hand-welding torch, the HW-18, by incorporating the water cooling passages into the torch head. Lighter, smaller and more rugged, the torch body is made of Fiberglas-reinforced phenolic with exceptional heat resistance

and with impact strength four times greater than usual ceramic cups. It weighs 7 ounces and the improved design of the collet bodies gives more efficient argon shielding, thereby conserving gas. Linde Co., Div. of Union Carbide Corp.

... for more details, circle No. 313

## INSULATED HIGH TEMPERATURE WIRE

... unaffected by heat of soldering iron

Silver-plated, stranded copper conductors Bronco 500 electric hook-up and lead wire is insulated with teflon tape. This eliminates cracking at low temperatures and permits runs of unlimited lengths. Bronco 500 is made in a.w.g. sizes 20, 18, 16, 14, 12 and 10; is available in all colors, solid and striped combinations. Added to the fact that Bronco 500 has no measurable moisture absorption is the insulation characteristic, which means wire is unaffected by soldering irons. Power factor is .5%. High Temperature Division, Western Insulated Wire Co.

... for more details, circle No. 314

## CHEMICAL RUST REMOVER

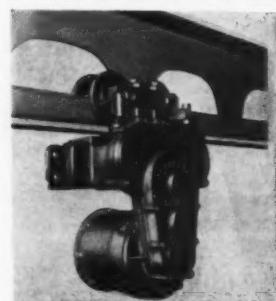
... no rubbing or scraping needed

Rust eats profits faster than most manufacturers like to recall ... but there's no reason why it should continue to do so with this chemical application which dissolves rust without rubbing or scraping. Manganese-Phospholene No. 7 is its full name and all you do is free your surface from oil and spray with the chemical in liquid form. It combines chemically with the iron, steel or zinc to form a non-metallic moisture-and water-proof coating that becomes integral with the metal while tolerances remain unchanged. Western Reserve Laboratories.

... for more details, circle No. 315

## MOTOR POWERED TRACTOR

... streamlines overhead handling



It may be over your head, but there's nothing puzzling about this new motor-powered tractor for use on overhead tramrail material handling systems. The unit is driven by two 5-in. diameter steel rollers under spring pressure against the bottom of the track. Rubber drive rollers are also available. Minimum speeds of this unit are 50 f.p.m., with  $\frac{1}{2}$  hp. motor, 75 f.p.m., with a  $\frac{3}{4}$  hp. motor and 100 f.p.m., with 1,  $1\frac{1}{2}$  or 2 hp. motors. Maximum speed is 350 f.p.m. The Cleveland Crane & Engineering Co.

... for more details, circle No. 316

*How Long Distance makes money and saves money for business*

## Telephone is main ingredient in mushroom sales

says Roland E. West, President, West Foods of California, producers of famous "Shady Oak" mushrooms



Photographed at the Sheraton-Palace Hotel

"We ship an average of three tons of fresh mushrooms every day," says Mr. West, "and all are sold by phone. So you can see why we consider the telephone a basic ingredient to successful selling." As proof of their success, Western Foods is the world's sixth leading producer of mushrooms.

No matter what your product or where your markets, the telephone can be an important sales tool — and your biggest sales producer. Let our Service Engineers show you how low long distance rates can mean higher profits to your business. Just call your telephone business office.

### Typical, low Long Distance daytime rates

From	To	First 3 Minutes	Add'l. Minutes
Los Angeles—New York	...	\$2.50	.65
Seattle—Santa Fe	...	2.05	.55
Portland—Minneapolis	...	1.90	.50
San Francisco—Salt Lake City	...	1.35	.35

(Weekday, station-to-station rates, excluding tax.)

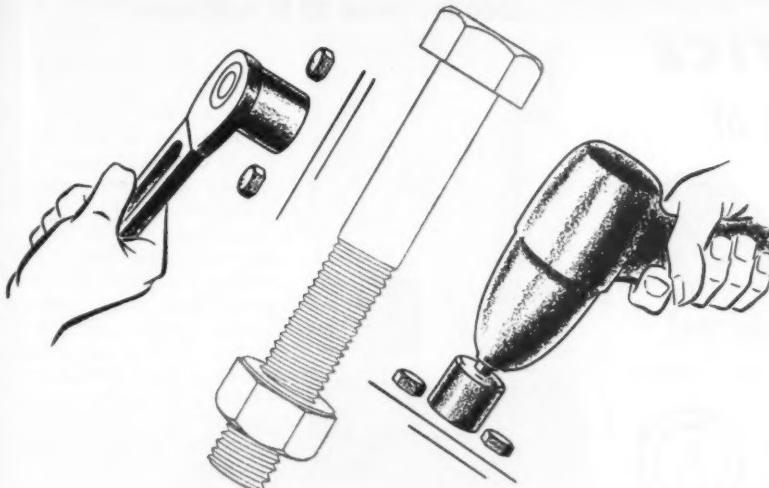


**Pacific Telephone**

... for more details, circle No. 51 on Reader Service Postcard

WESTERN INDUSTRY — June 1958

## ECONOMIC FACTS ON FASTENERS



# TIGHTEN UP FASTENERS TO TIGHTEN DOWN ON COSTS

**• Too little tightening wastes  
fasteners' strength—invites failures**

**• Proper application saves on  
material and production costs**

Go the limit in tightening bolts. You'll find this not only more economical, but safer too. For the strength of a rigid connection depends not on how strong a bolt is, but rather on how much *clamping force* it exerts when tightened.

**Example:** A bolt good for 20,000 pound load is tightened to just 5,000 pounds tension. Believe it or not, joint strength from that bolt would be only 5,000 pounds.

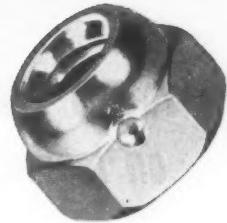
**Case History:** Earthmover's bucket kept coming loose. Bolts were upgraded progressively, finally to alloy steel and to 1½-inch size . . . to no avail. Trouble was they still were not being adequately tightened. Bigger wrench, more torque and standard ¾" RB&W high tensile bolts stopped problem, saved money.

Obviously, the more of the fastener's strength you use, the smaller

it can be. That's why RB&W High Tensile Bolts are such good buys. They have more strength to give. They cost less than the larger machine bolts or bright cap screws they can replace. Moreover, smaller bolts mean smaller holes to drill or tap. Smaller holes can often mean reduction in size of fastened members.

For a penetrating, productive value analysis of your fastening operations, make use of an RB&W Fastener Man. You may be surprised at the cost cutting his experience makes possible. Russell, Burdsall & Ward Bolt and Nut Company, P.O. Box 3336—Terminal Annex, Los Angeles 54, California.

**Plants at:** Los Angeles, Calif.; Rock Falls, Ill.; Coraopolis, Pa.; Port Chester, N.Y. **Additional sales offices at:** San Francisco; Dallas; Chicago; Detroit; Pittsburgh; Ardmore (Phila.), Pa. **Sales agents at:** Denver; Fargo; New Orleans; Milwaukee. **Distributors from coast to coast.**



**Economical lock nut**

Staking opposite sides of these RB&W acorn nuts deforms threads for a positive grip. It also puts middle of nuts slightly out-of-round, for a spring tension locking effect. They're designed for applications such as outdoor furniture, where anchoring fasteners is more important than solid seating. Available in aluminum, steel, silicon bronze.

These all-metal nuts can also be furnished in double chamfered style. Since they lock with their middle threads, they can be turned onto screw from either side.



**Silicon bronze fasteners  
combine desirable features**

Silicon bronze offers the highest conductivity in fasteners able to withstand high stresses. It resists corrosion, stays free from season cracking, too. It makes ideal fasteners for electrical use where tensile strength is important; or for corrosive environments.

One of the first to develop such fasteners, RB&W cold works them for tensile strength and for clean, well formed threads that don't seize. Oval bolts, hex bolts and nuts, and U bolts available. Specials can be developed.

**R B & W FASTENERS—STRONG POINT OF ANY ASSEMBLY**

*... for more details, circle No. 52 on Reader Service Postcard*

## FAST SERVICE

on leading lines of



### Power Transmission Equipment,



### Ball & Roller Bearings

Serving the Southwest since 1919

#### EDWARD D. MALTBY CO.

SPECIALISTS IN BEARINGS AND POWER  
TRANSMISSION EQUIPMENT

GENERAL OFFICES: 1940 So. Figueroa St., Los Angeles 7, Calif.  
WAREHOUSE & CUSTOMER SERVICE: 1947 So. Flower St., Los Angeles 7, Calif.  
S. W. Jefferson St. 725 Fifteenth St. 4035 E. 52nd St. 2041 W. Anaheim St.  
PHOENIX, ARIZ. SAN DIEGO, CALIF. MAYWOOD, CALIF. LONG BEACH, CALIF.

... for more details, circle No. 53 on Reader Service Postcard

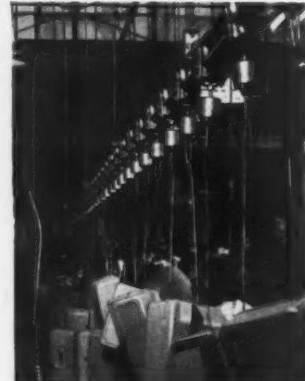
2000 feet of floor space saved with

## AMERICAN "Cable-Way"

This 700-foot overhead  
"Cable-Way" Conveyor  
also:

1. Increased production 50%.
2. Reduced labor costs.
3. Improved painting and assembly methods.

Parts move on rotating hangers through burn-off oven, hand spray painting, electrostatic spray, and a bake oven.



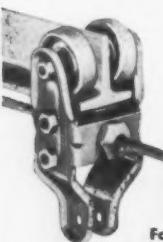
#### LOW-COST...EASILY INSTALLED

All-bolted construction. Track can be suspended or floor-mounted. Motor-driven sprockets engage in drive lugs in pitch on continuous cable. Compact units. Write for Catalog CDA.

#### CONVEYOR DIVISION

#### THE AMERICAN MONORAIL CO.

Fourth & Franklin Streets • Tipp City 20, Ohio



... for more details, circle No. 54 on Reader Service Postcard

### NEW HIGH IN LIFT TRUCKS ... 4000 lbs. lifted 30 ft. with ease

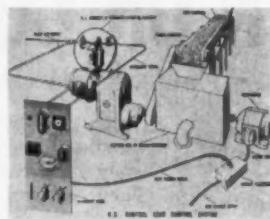


This tops anything yet . . . a lift truck that can raise a 4,000-lb. load to a height of 30 feet. Lift truck channels were designed with an overall collapsed height of 220 in. and are similar in appearance and basic operation to standard Yale roller channels operating with a simplex lifting cylinder. Load capacities increase proportionately with lower height ranges (5,300 lbs. to 300 in., 6,600 lbs. to 240 in., and 8,000 lbs. to 180 in.). Lifting speeds of 20 feet

per minute loaded and 21 feet per minute empty are possible. Lowering speeds are 31 fpm. loaded and 20 fpm. empty. Aiding in stability is the use of 9-in. face dual drive tires on the truck providing 36 in. of tire surface on the ground at the front of the truck. Yale & Towne Mfg. Co.

... for more details, circle No. 317

### VARIABLE SPEED CONTROL SYSTEM ... automatically regulates load



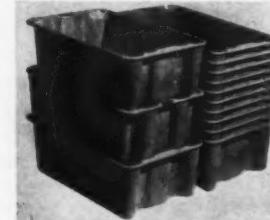
Designed for use on grinding mills, this load control system consists of a varidrive, with vari-trol automatic control, driving the feed conveyor or an a-c. constant-speed motor operating the mill. The real secret is maintaining constant

horsepower. Usually it varies with the amount received by the mill, but on this unit speed of the varidrive is automatically regulated. The system will maintain the work load within 10% of the desired value, and a dial control permits the load level to be shifted between 25% and 100% of the full load rating of the mill motor as desired. U. S. Electrical Motors, Inc.

... for more details, circle No. 318

### STACK-n-NEST TOTE PANS

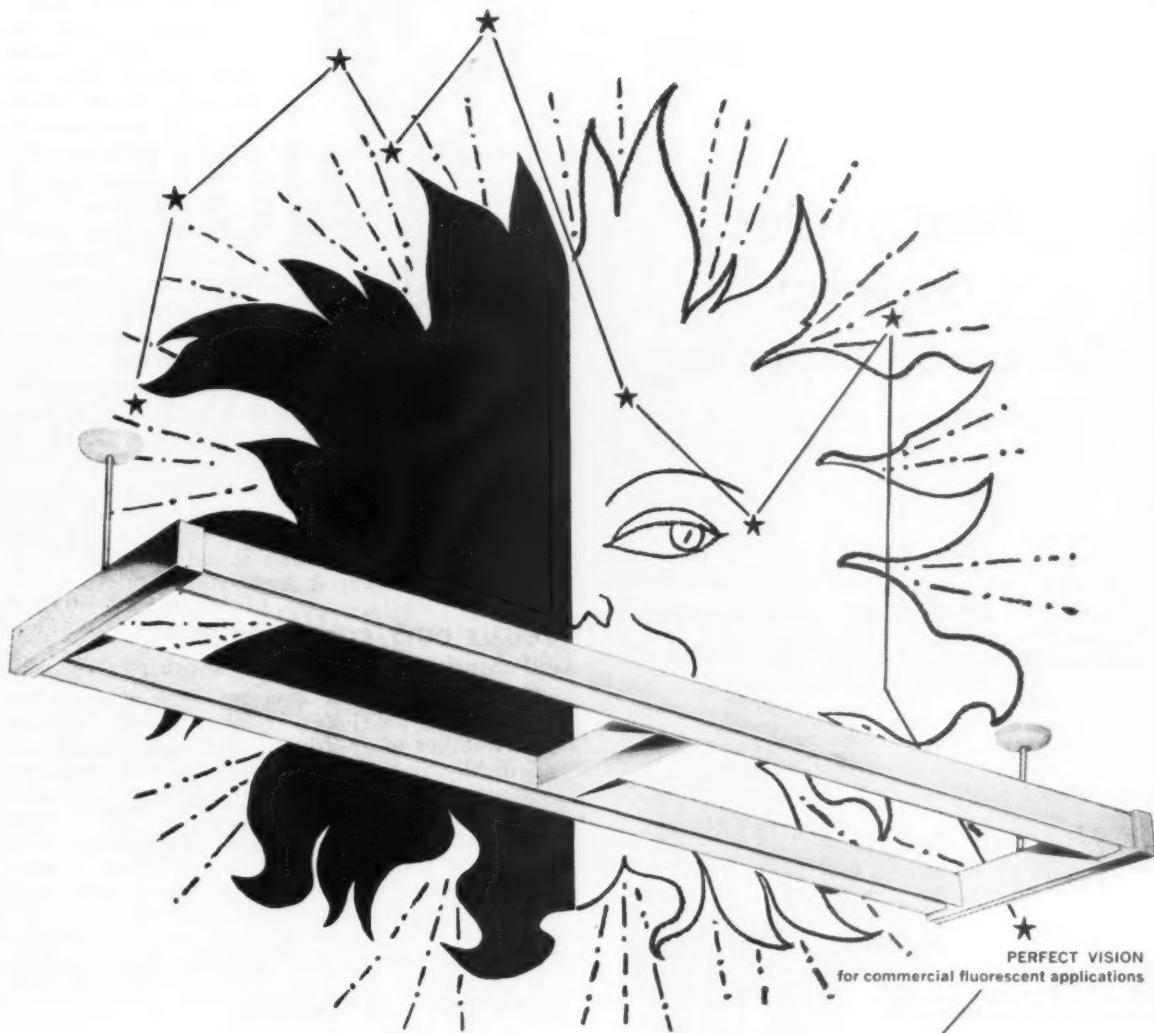
... now in seven different sizes



You know what happens to so many tote pans? . . . they rust, rot, dent, warp or soften in no time flat. But the Stack-n-Nest line does away with these headaches with pans that are resistant to water, oil and most chemicals.

They're molded in one piece of fibreglas-reinforced polyester and their design permits them to be stacked within their own dimensions. Molded in grey, green, red or neutral, sizes available are 16x10x5, 18x12x6, 18x12x8, 22x14x8, 27x16x11, 34x24x11 and 39x19x14. G. B. Lewis Co.

... for more details, circle No. 319



*when you think of lighting*  
*think of SMOOT-HOLMAN*

PERFECT VISION Luminaires combine attractive styling with even light distribution and high efficiency . . . easier hanging and lamping. The design has been copied, but not the lighting performance. Insist on the genuine, original PERFECT VISION Luminaire. Be sure it carries the SMOOT-HOLMAN label!

Write for brochure with performance data

**SMOOT-HOLMAN COMPANY, Inglewood, California**



... for more details, circle No. 55 on Reader Service Postcard

*Create a Better Product at Lower Cost!*

## design for copper furnace brazing

Superwelding is a superior process, allied to both welding and brazing, for permanently joining two or more ferrous metal parts in a special type of electrical furnace under a controlled atmosphere which prevents oxidation of the parts. Because of the strength of Superwelded joints, and the high production rates, we are today serving scores of manufacturers, helping them to produce better units at lower cost.

For further information call STanley 7-3121



**SUPERWELD CORP.**

6840 Vineland Ave., No. Hollywood, Calif.

... for more details, circle No. 56 on Reader Service Postcard

### SAFE OPERATION OF OVERHEAD VALVES with a

**Babbitt**

Adjustable

**SPROCKET RIM with Chain Guide**

- Simplifies pipe layout
- Fits any size valve wheel
- Easy to install and operate
- Operates any valve from plant floor
- Time and money saving fixture
- No maintenance, first cost only cost
- Packed, completely assembled, one to a carton
- Hot galvanized, rust-proof chain available for all sizes
- Easy to follow instructions with each unit
- Your supplier carries complete stocks
- Write for new descriptive catalog sheet and prices



**Babbitt**

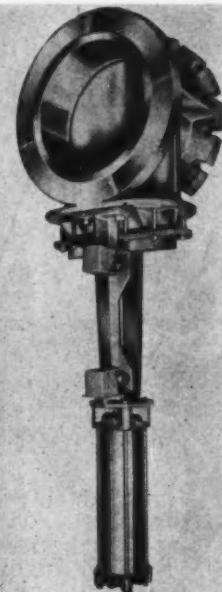
STEAM SPECIALTY CO.

13 BABBITT SQUARE, NEW BEDFORD, MASS., U.S.A.

... for more details, circle No. 57 on Reader Service Postcard

### DIGESTER CAPPING VALVE

... ends waste in pulp and paper mills



A real headache in pulp and paper operations was the bolt-on type cap which had to be removed each time digesters were loaded with chips. Now, successfully proved during the past two years by on-the-job application, the stainless steel Digester Capping Valve makes possible several extra "cooks" per day by automatically opening and closing the inlet valve. To guarantee against premature opening of the valve, a pressure switch is available to prevent operation above 3 psi. Also, there is an electric solenoid operated mechanical

locking device (manual or automatic) which locks the gate in both open and closed positions as desired. W. G. Rovang & Associates.

... for more details, circle No. 320

### DOUBLE DUTY CONVEYOR BELT

... absorbs and distributes shock

Flip over this belt after one side is worn and use the other side! Yes, this Shockmaster (named for its ability to absorb and distribute shock) was specifically designed to allow the belt to be turned over after the first carrying side is no longer satisfactory. The belt is medium weight with a high impact resistance for use over smaller than usual pulleys on short center hauls. The heavy cotton nylon core construction with an extra heavy open weave nylon envelope makes this belt unusually flexible without loss of bulk or strength. Quaker Rubber Division, H. K. Porter Co., Inc.

... for more details, circle No. 321

### MINIATURE GAS TURBINE

... delivers either 5 or 10 hp.



Weighing only 30 lbs., this compact and portable Turbo-Mite is claimed to be the smallest gas turbine ever developed. The Turbo-Mite can be used as an auxiliary power unit, portable pump, portable pneumatic source or portable ground power. As an auxiliary power unit, the turbine offers reliable emergency starting under any conditions, and can be supplied to

furnish 400 cycle a-c. or d-c. electrical power, pneumatic power or combinations of all. The unit can also be used as a portable pumping system and a portable pneumatic system. Propulsion Research Corp., a subsidiary of Curtiss-Wright Corp.

... for more details, circle No. 322

**NOW...**

the famous

**P&H Zip-Lift®**

with 2-speed control

for as low as

**\$555**



*First lightweight 2-speed hoist!*

- Slow speed for precise spotting
- Fast speed for normal operation
- Fingertip pushbutton control
- P&H motor and electrical equipment specifically designed for hoisting service
- Two-brake safety
- Capacities from 250 to 2000 lbs.
- P&H service—anywhere, any time
- In stock at your P&H Hoist Distributor. See him.

**P&H** **HARNISCHFEGER**  
...quality and service for 74 years

MAIL COUPON FOR COMPLETE DETAILS

**P&H**

**HARNISCHFEGER CORP.**

Dept. 209M, Milwaukee 46, Wis.

- Please send me Bulletin H-61.  
 Have a P&H representative call on me.

Name.....

Title.....

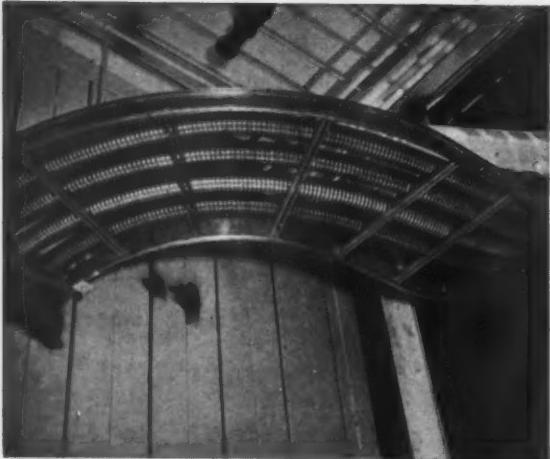
Company.....

Address.....

City..... State.....

SS-209

... for more details, circle No. 58 on Reader Service Postcard



### ARMOR CABLE FOR QUICK NEW POWER

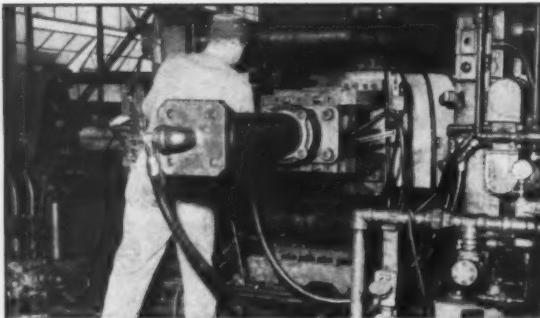
Need to expand or relocate power feeders? Anaconda Duralox® Interlocked-armor cable lets you put power where you want it—fast, economically. Made with its own tough, yet flexible armor, Duralox is installed without conduit. It is laid quickly—indoors or out—on light, easily installed racks, trained smoothly around corners, columns and other obstructions in long, uninterrupted runs. Metal armor affords high protection against damage. NEW BULLETIN DM 5806 contains full information. Write for free copy to: Anaconda Wire and Cable Company, 25 Broadway, New York 4, N. Y.

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### Aeroquip Hose Lines Withstand Heat, Soaking, Shock and Abrasion ON 1000-TON DIE CASTING MACHINES



Basic Aluminum Castings Company of Cleveland, Ohio, reports no hose failures with Aeroquip Hose and Fittings. Dependable operation for more than four years has proved the reliability of Aeroquip 1509 Hose and Reusable Fittings. Used on high pressure hydraulic lines, this hose is exposed to high surge pressures, ambient heat, abrasion, external water and oil 18 to 24 hours daily. Aeroquip offers hose types for pressures up to 5000 psi. compatible with all kinds of hydraulic fluids. Call the Aeroquip distributor listed in your Yellow Page Phone Book, or write us for complete information.

**Aeroquip**

**AEROQUIP CORPORATION, WESTERN DIVISION, BURBANK, CALIFORNIA**  
SALES OFFICE AND WAREHOUSE FOR OREGON, WASHINGTON AND IDAHO:  
SPARKS AEROQUIP NORTHWEST, INC., 1624 S. E. GRAND AVE., PORTLAND 15, OREGON  
AEROQUIP PRODUCTS ARE FULLY PROTECTED BY PATENTS IN U.S.A. AND ABROAD

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88

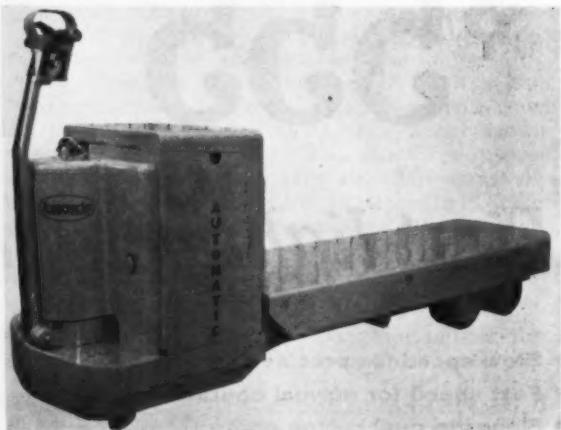
### AIR-OPERATED CHAIN HOIST ... weighs only 30 lbs.



With this compact new 1,000-lb. air-operated chain hoist, you can raise half-ton loads at a rate of 50 ft. a min. And the hoist is capable of lowering rates up to 90 ft. a min. under maximum load. Sensitive throttle control permits accurate spotting of loads and infinite gradation of load lifting or lowering rate from crawl speed to maximum speed. Powered by a reversible eight-blade air motor, it is available with two types of throttle control, and with roller or link chains and with hook or trolley mounting. Safety features include air-cooled disc brakes which automatically lock in the event of air pressure failure. **Thor Power Tool Co.**

... for more details, circle No. 323

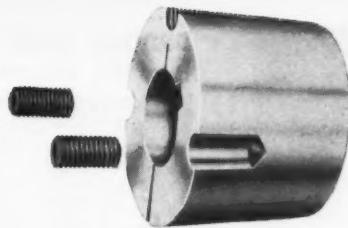
### NEW PLATFORM TRANSPORTERS ... emphasis on heavy duty



Here are low-lift operator-led trucks designed to meet the demand of industries where increasingly larger units are being moved. So, if you're in the chemical, glass, primary metals, etc., industries, you'd better have a look at these platform trucks. Lifting capacities range from 8,000 lbs. up to and including 15,000 lbs. and are known as WWY-8, 10, 12 and 15, according to designated capacity. Powered by Class H silicone motors, the models' standard battery compartments are designed for heavy duty requirements. Short types available on request. Steel wheels are standard, but rubber are optional. Trucks are offered only in 9 and 11-in. lowered heights. **Automatic Transportation Co., Div. of the Yale & Towne Mfg. Co.**

... for more details, circle No. 324

**WESTERN INDUSTRY — June 1958**



## TAPER-LOCK Bushings are *Interchangeable!*

<b>Change from shaft to shaft</b>				
<b>Change from size to size</b>				
<b>Change from sheaves to sprockets to couplings to conveyor pulleys</b>				

### ● Save Time!

There's nothing like Taper-Lock for mounting wheels on shafts! First, you get off-the-shelf convenience. No reborning, no machining, no waiting!

### ● Save Work!

You get the holding power of a shrunk-on fit with minimum effort. Product and bushing slip on the shaft as a unit. Tighten the screws—and you're set!

### ● Save Money!

You save big money by minimizing down-time with quick changes. And interchangeability minimizes inventory. Note that all of the above installations are handled with a total of only four bushings—all with the same outside diameter!

DODGE MANUFACTURING CORPORATION, 6600 Union St., Mishawaka, Ind.

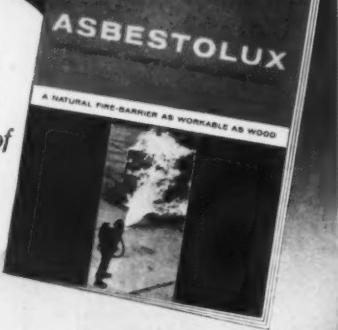


CALL THE TRANSMISSIONEER — your local Dodge Distributor. Factory trained by Dodge, he can give you valuable help on new, cost-saving methods. Look in the white pages of your telephone directory for "Dodge Transmissioneers".



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on America's  
newest fireproof  
insulation  
board—



## ASBESTOLUX

Asbestolux is a unique inorganic board made of special long fiber asbestos. A third the weight of ordinary asbestos cement boards, Asbestolux is as workable as wood with standard carpenter's tools. Asbestolux is completely incombustible and will help you solve an unlimited number of construction, maintenance and fire protection problems more efficiently. Why not write today for your copy of the book, a sample and the name of your nearest distributor?

**NAAC**  
NORTH AMERICAN ASBESTOS CORPORATION  
Board of Trade Building, Chicago 4, Illinois

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*Handiest* TOOL IN THE PLANT!



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Ask for Bulletin 903.

CLEMENTS

**Cadillac®** BLOWER-SUCTION  
CLEANERS

Portable — versatile — economical. Simplest, quickest way to clean motors, machinery and other equipment. Pays for itself in any plant. Ask your dealer for a demonstration.

### 4 BLOWER-SUCTION MODELS

...including powerful Model HP with 2-speed motor for double duty. Easy starting at low speeds prevents blowing of fuses. All models available with attachments for handling many special tasks.

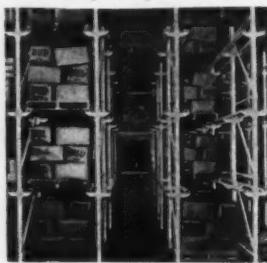
### HANDLES 101 CLEANING JOBS

Blows dust, grit, chips and filings from hard-to-reach places. Use it as a suction cleaner for all kinds of jobs, or even to salvage bits of rare metal. Other models for annealing, soldering, and for preheating for bending.

**BLOWER DIVISION | CLEMENTS MFG. CO.**  
6632 S. Narragansett Ave., Chicago 38, Ill.

SINCE 1910 Specialists in Quality Cleaning Equipment  
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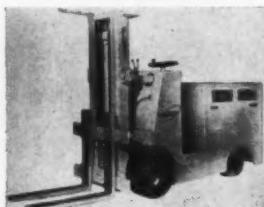
### DRIVE-IN RACK ... fully adjustable, boltless



This unusual storage medium is loaded and unloaded by driving the lift truck directly into the rack. By elimination of aisle space characteristic of the drive-in rack, 50%, 100%, or 200% more goods (depending on depth of rack) can be stored in the same area than are stored using conventional methods. Using standard "Speedrack" components, this new storage rack is a completely free-standing unit, rigid without anchoring to floor or ceiling. Further, it has been designed to function without overhead beam which might limit load heights or make layout difficult. Storage Products Corp.

... for more details, circle No. 325

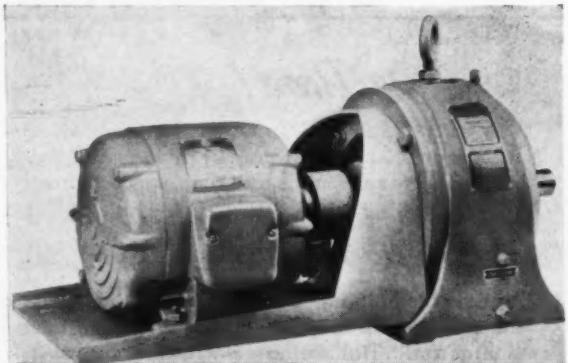
### CENTER-CONTROL FORK TRUCKS ... feature maximum maneuverability



Rugged service is what these trucks were made for ... and they're proving they can take it. Electric-powered, stand-up, center-controlled with capacities from 4,000 to 10,000 lbs., their frames are made from heavy gage reinforced formed steel plates electrically welded into rigid box structures. Uprights are of alloy steel, with inner uprights and the elevator mechanism designed to move on widely spaced rollers. The Elwell-Parker Electric Co.

... for more details, circle No. 326

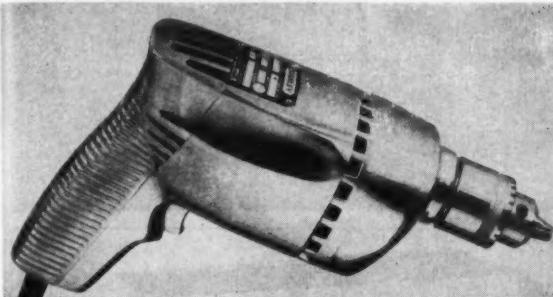
### MOTORIZED GEAR UNIT ... where down time is critical



Yes, down time is critical. But here is a motorized gear unit you can replace rapidly by disconnecting the coupling between motor and reducer. The new unit is called Line-A-Spede. Line-A-Spede drives are gear reducers powered by standard NEMA frame motors mounted on a shelf attached to the reducer. Double, triple, and quadruple reduction gear units, with ratings up to 1487 to 1, are available for motor ratings of 1 to 75 hp. Units are available for horizontal, vertical, flange, incline, sidewall or ceiling mounting. The Louis Allis Co.

... for more details, circle No. 327

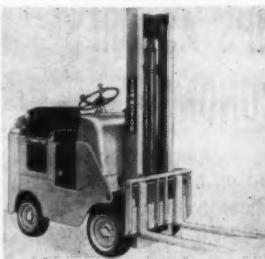
**NEW DRILLS AND DRIVERS**  
... powered for industrial use



Distinctive, advanced industrial design has gone into this line of drills and drivers, which include two  $\frac{1}{4}$ -in. heavy-duty drills, two  $\frac{3}{8}$ -in. heavy-duty drills, one  $\frac{1}{2}$ -in. standard duty drill (and drill kit) and six heavy-duty impact-type power drivers. All ampere ratings on these tools are industrial ratings. All the heavy-duty drills have precision-sealed ball bearing construction designed for continuous operation and production drilling with lifetime lubrication for cool performance. The heavy-duty impact-type drivers feature controlled pressure that engages impact action and insures positive tightness of screws and nuts. **Stanley Electric Tools**, division of the **Stanley Works**.

... for more details, circle No. 328

**FORK LIFT SAFETY FEATURES**  
... with Underwriters' Lab. approval



The Underwriters' Laboratories Approval has been granted to 11 fork lift trucks developed by Townmotor Corp. The trucks received this approval because of type GS safety equipment. Safety standards for type GS equipment require that mechanical and electrical components be positioned and protected so that fuel and lubricants cannot come in contact with heated surfaces. To further minimize fire hazards, the new Townmotor units have a special exhaust system that features a dry type muffler and a new Townmotor-designed spark and flame arresting tail pipe. Other safety elements include an extra-rigid fuel tank, safety filler cap and a non-conductive battery cover plate. **Townmotor Corp.**

... for more details, circle No. 329

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the many advantages of

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**CAST IRON**  
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WESTERN INDUSTRY — June 1958

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Clean Bright Finish**

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#7/0 thru #14.

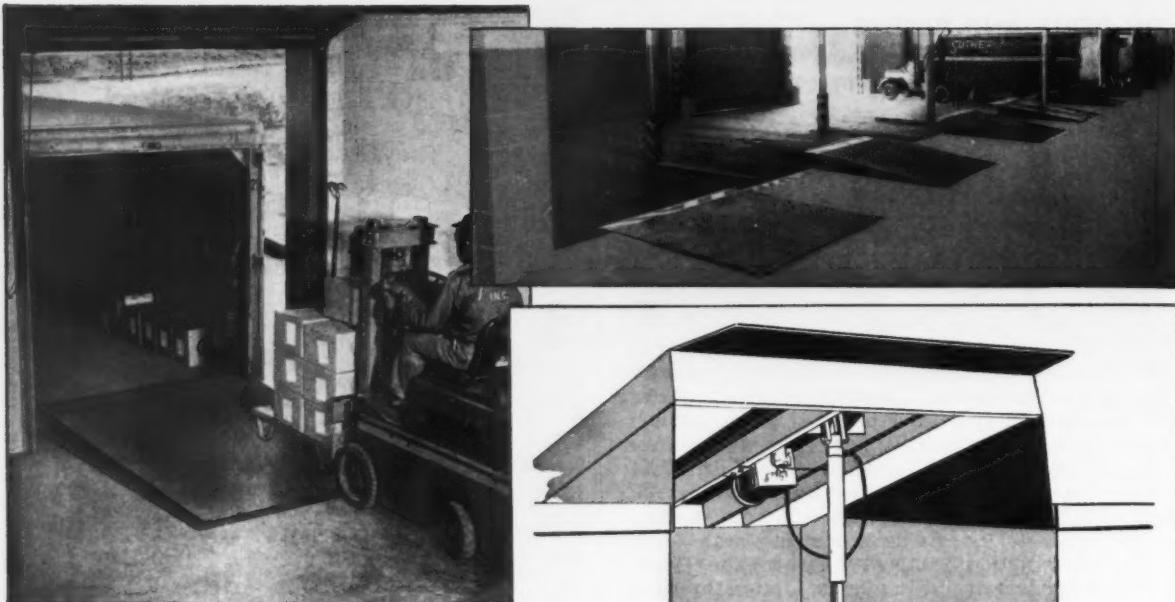
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Pins, quality Cotter  
Pins, Woodruff Keys,  
Machine Keys and  
special parts to order.

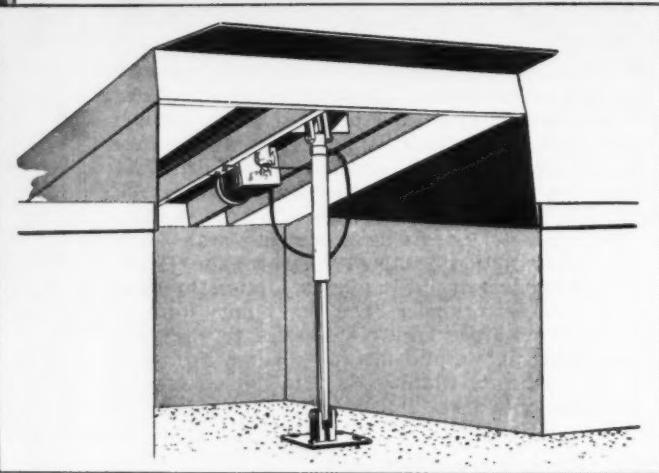
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conveniently packaged.



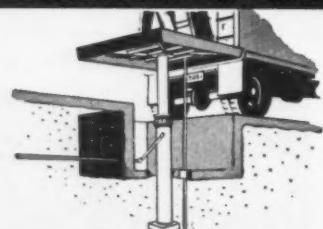
Western Factory Sales Representative  
GRETHE & GRETHE, P. O. Box 47, Stockton, California  
... for more details, circle No. 66 on Reader Service Postcard



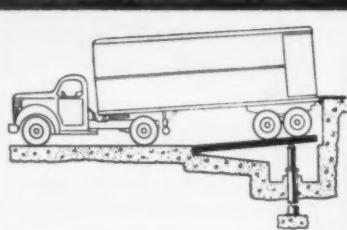
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GLOBE PLATFORM LIFT



GLOBE TRUCK LEVELER



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## OF GLOBE TRANS-O-MATIC RAMPS ASSURES SUPERIOR PERFORMANCE . . . ECONOMY

There's no waiting to "bridge the gap" for loading and unloading when you use Globe Trans-O-Matic Ramps. These hinged Ramps are instantly in position . . . provide a strong, smooth bridge from dock to truck bed regardless of difference in levels.

The unmatched design and sturdy construction of Globe Trans-O-Matic Ramps assure you long, satisfactory performance. High load capacity—up to 20,000 lbs. for either cross-over or roll-over—is made possible by Globe's box and channel design. Ramp lip "floats" with vehicle bed 15" up or down. Automatic safety lock instantly holds Ramp in fixed position if truck pulls out accidentally . . . prevents dumping, injury or damage. Two models, either electric or air-oil, are available.

Write today to Globe Pacific Hoist Company for complete data on automatic, adjustable Globe Trans-O-Matic Ramps, and other Globe Industrial Lifts designed for faster, safer materials handling. Information is also available in Sweet's Plant Engineering Catalog.

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**TRANS-O-MATIC RAMPS**

PLANTS: DES MOINES—PHILADELPHIA—LONG BEACH, CAL.

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WESTERN INDUSTRY — June 1958

# The Industrial West

ON ITS WAY

plants • production • distribution • personnel

## What's Going On . . .

### WHAT'S GOING ON?

Quite a number of new plant openings, for one thing. Such as the impressive activities at IBM's San Jose plant, reported on this page.

And the formal opening July 1 of the American Brass mill, that's geared especially for needs of Western Industry (page 94). Liquid Carbonic's Oakland plant is scheduling a formal opening in the near future, too.

On page 95 there's good news about American Pulley's freight-allowed-plan . . . and on 96 the Bay Area's first major wire sling shop—CF&I's in San Leandro—is described.

You fork-lift cowboys can see on-the-spot pictures taken by our editors at the Los Angeles rodeo in May (page 102), while the part-time Picassos among you can read details on page 100 about the WESCON art exhibit.

Starting on page 106, you'll find personnel news about 28—count 'em—28 different companies in the West. Hope you find it interesting.

M. C. Tracy  
WI News Editor

## Star Machinery To Move to New Portland Quarters

PORLAND — A new home for the Portland branch of Star Machinery Co. of Seattle is expected to be ready for occupancy shortly after July 1, according to Sverre Windal, Star's sales manager in Portland.

The new warehouse-office will be a \$75,000 structure at 3325 N. W. Yeon Ave. in the David Industrial Park district. The branch will vacate its present premises at 801 S. W. Front Ave.

## Open House and Conference Mark Dedication of IBM Plant at San Jose

SAN JOSE, CALIF.—Open house activities which featured a tour through a computer assembly line, a chance to watch an electronic computer answer historical questions in nine different languages, and a look at an outstanding industrial center marked the May 27 dedication of International Business Machines Corporation's new plant here.

Concurrent with dedication activities was a two-day conference at the IBM research lab on Communication of Scientific Information. More than 80 prominent scientists from this country, Great Britain and France attended the meeting.

IBM's new center, on a 210-acre site at Monterey and Cottle Roads south of here, is an industrial complex of eight buildings that contains facilities for manufacturing, engineering, research and education. About 2,700 persons are employed at IBM locations in San Jose.

According to John S. Bolles, San Francisco architect for the facility, it was designed to incorporate the best in modern industrial planning—an efficient plant, a combination of structures in harmony with their setting, and a

place where people like to work. The low, one-story buildings and courts are related to the site's flat terrain, creating a campus-like atmosphere. Large expanses of glass and exterior colors that create a light, airy atmosphere are employed. Furnishing artistic enrichment to the project are ceramic murals and sculptures by 14 well-known Bay area artists. The murals face many of the exteriors and the sculptured works have been placed in each pool or court.

The plant was built to produce IBM's 305 RAMAC data processing system, developed at San Jose. Other products include the firm's 604 and 607 electronics calculators.

Visitors saw continuous demonstrations of the RAMAC as it is now being exhibited at the Brussels World's Fair. Into the system's 5,000,000-character magnetic memory a condensed history of the world—from the birth of Christ until now—in nine different languages—has been fed, so that a visitor can ask the machine what important events occurred in any year in that time. The answer appears on a typewriter printer in whatever language the visitor specified.

than a year and a half to complete, will include a 216-ft. addition to the present annealing building. In height, the addition will be equivalent to a nine-story building.

When in operation, the new line will supplant some of the Pittsburg Works' box annealing furnaces. The continuous annealer will allow a continuous flow of material through the 500-ft. line at speeds up to 1,500 ft. a minute.

## U. S. Lime Products Opens New Facility in Nevada

LAS VEGAS, NEV.—Opened May 28 at Arrolime, Nev., some 20 miles northeast of here was a \$2,000,000 addition to the United States Lime Products Corp. plant. The new facility, which has two rotary kilns, will produce about 400 tons of quick lime daily. U. S. Lime Products Corp. is a subsidiary of Flintkote Co.

## Continuous Annealing Line for U. S. Steel at Pittsburg

PITTSBURG, CALIF.—Under construction soon at U. S. Steel's tin plate manufacturing facilities here will be a continuous annealing (heat treatment) line, first of its kind at the plant and a major equipment addition in making quality tin plate products.

The big job, which will require more

## Edcor Moves Facilities from Glendale to Phoenix

PHOENIX—Now occupying a new 35,000-sq. ft. plant here is U. S. Electronics Development Corp., which moved all its facilities from Glendale, Calif., last month. Edcor, manufacturer of electronic capacitors, has acquired a 16½-acre site that provides room for future expansion.

**BUILT TO  
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LONGER,**

*Built for the  
ruggedest and  
the toughest  
jobs—*



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Always **SWIVEL**  
and **ROLL**

*Check THESE ADVANTAGES:*

**RUBBER TREADS** . . . a wide choice of treads suited to all types of floors, including Darnell-prone oil, water and chemical-resistant treads, make Darnell Casters and Wheels highly adapted to rough usage.

**RUST-PROOFED** . . . by zinc plating, Darnell Casters give longer, care-free life wherever water, steam and corroding chemicals are freely used.

**LUBRICATION** . . . all swivel and wheel bearings are factory packed with a high quality grease that "stands up" under attack by heat and water. Zerk fittings are provided for quick grease gun lubrication.

**STRING GUARDS** . . . Even though string and revolvents may wind around the hub, these string guards insure easy rolling at all times.



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... for more details, circle No. 68

**American Brass Co. Set for Opening  
of New Western Brass Mill July 1**



**10,000 POUNDS PER HOUR** of length or coil material is the output of this bright annealing furnace at American Brass Company's new Paramount, Calif., brass mill. Here you see the exit end of the furnace, made by Electric Furnace Co. Material is fed through on rollers and atmosphere is controlled so that copper comes out bright.

The mill—newest, most modern in the U.S.—has a yearly capacity of 30,000,000 pounds of copper and copper alloys in the forms of tubes, sheet, strip, rod and special shapes. Covering nearly 400,000 sq. ft. of manufacturing space, the facility features huge shipping bays designed to handle railroad and cars and trailer trucks, a 3,000-ton Hydropress extrusion machine, a 150,000-lb. drawbench, and new, effective smoke control equipment.

Formal opening of the mill has been set for July 1.

**Laher Spring & Tire  
Notes 50th Anniversary**

OAKLAND — Marking its 50th anniversary this year is Laher Spring & Tire Corp., 26th and Magnolia, a firm that has grown from a one-man auto spring works to a company that does an annual business of over \$6,000,000.

Founded in Portland by F. J. Laher, its first expansion was opening of a Seattle plant, followed by establishment of branches in other major Western cities. Diversification brought production of brake lining, then a tire line, later a battery production plant, and, in 1956, manufacturing of electric cars and industrial trucks.

In its 50th year, the corporation and its subsidiaries operate plants and offices in major cities throughout the country, employing hundreds of men and women. Laher products, known and used over the world, include Mountain Master brake lining, Mustang tires, Exeter batteries, Hill-Billy electric cars and Laher springs, overload springs and boosters.

**Seattle Representative  
Named by Yale & Towne**

SEATTLE — Coast Associates, Inc., 1961 Fourth Ave., So., has been appointed franchise sales and service rep-

resentative for Yale & Towne industrial lift trucks in 17 Western Washington counties and Alaska.

Coast Associates, which occupies a 3,600-sq. ft. sales and service center with a demonstration and parking area, will provide internal service facilities, replacement parts inventories and a mobile service operation for preventive maintenance and in-plant service calls.

Stocks of new lift truck equipment and replacement parts will be supplied from Yale's plant-depot at San Leandro, Calif.

General manager of the firm, William G. Hathaway, announces that Bob Wiren will be working with the firm on a full-time consulting basis.

**Hollow Bars Available**

**In West Through Sandvik**

LOS ANGELES — Sandvik Steel, Inc., announces mill shipment availability of hollow bars, both stainless and carbon, through its Western offices at 3338 South Malt. The hollow bar stock can be secured in carbon grades AISI-1034 and in stainless type 316, according to Elmer Samman, Western manager.

## American Pulley Extends Freight Allowed Plan

OAKLAND — It's no longer "higher West of the Rockies" for heavy freight material handling products of American Pulley Co., Philadelphia, which announces that its freight-allowed-from-the-factory plan now covers all its M-H equipment.

According to G. P. Weishaar, Western regional manager, and American Pulley officials in the East, the freight allowed plan will be a boon both to consumers and the firm's Western distributors, since for years only certain "manual" material handling items were freight allowed in the West.

The allowances are made in accordance with the terms and conditions on price sheets (quantity ordered or shipped must weigh 100 lbs. or more), the company said.

In addition to the warehouse at 800 51st Ave., Oakland, American Pulley has branches at 1238 So. Atlantic Blvd., Los Angeles; at 911 Western Ave., Seattle, and in other Western cities.

## Judson Pacific-Murphy Is New Subsidiary of Yuba

SAN FRANCISCO—Judson Pacific-Murphy, Emeryville, the largest independent structural steel fabricating company west of Kansas City, is now operating as a subsidiary of Yuba Consolidated Industries, Inc.

Yuba plans to continue present operations of the new subsidiary, with an eye to improving production.

## Silver Steel to Build Salt Lake City Facility

DENVER — Harold F. Silver, president of the Silver Steel Co., has announced his firm will construct a \$750,000 steel service facility in Salt Lake City.

The new facility, expected to be in operation by 1959, will complete a triangular market in the Rocky Mountain area for the firm's products. Besides its two plants here, the firm has a plant in Albuquerque.

Silver is also president of the Silver Engineering Works which manufactures a line of coal driers and industrial driers and a coal carbonization process.

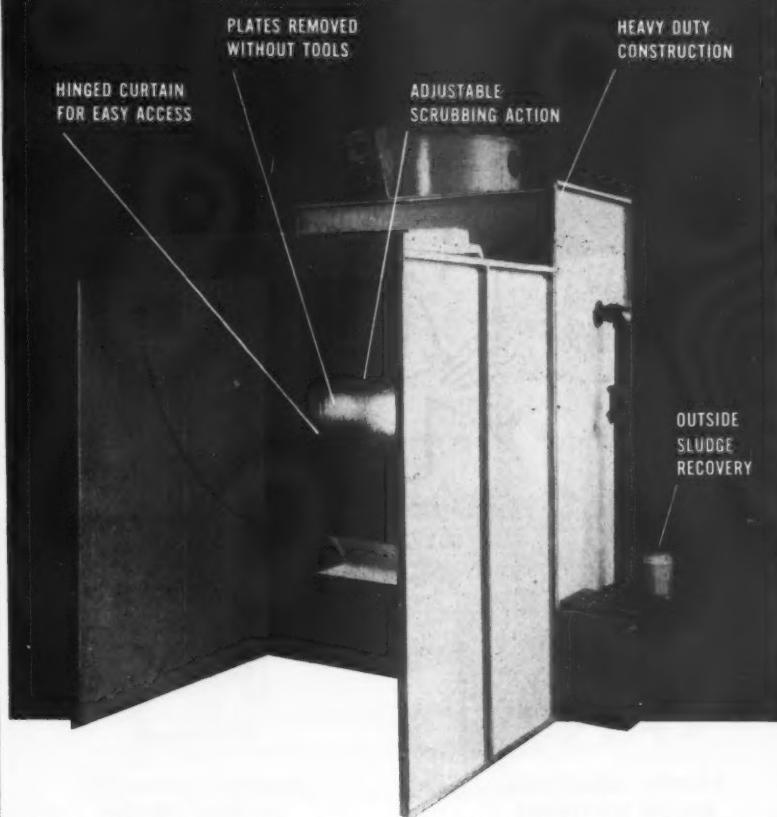
## Aerol Co. Purchases Larger LA Facilities

LOS ANGELES—Aerol Co., Inc. has announced the purchase of new and expanded production and warehouse facilities at 3235 San Fernando Blvd. Howard D. Neal is president of the firm, which manufactures vari-size wheels and casters for industrial equipment.

# NEW WATER-WASH SPRAY BOOTH

## HYDROMIST

...cuts maintenance costs 5 ways!



A really efficient, competitively-priced water-wash booth for the first time! The new Hydromist reduces "shut-down time" for cleaning and skimming with exclusive easy maintenance features...provides improved overspray removal for faster, better production! Available in sizes for every job and location...with or without conveyor openings. Write or phone today for descriptive brochure...and check all these important quality features before you buy!

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NAME \_\_\_\_\_

TITLE \_\_\_\_\_ COMPANY \_\_\_\_\_

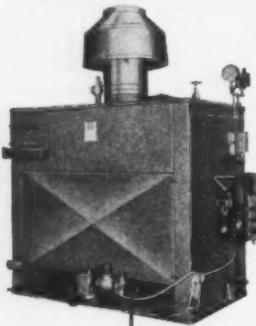
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# There's a PARKER Product FOR EVERY STEAM AND HOT WATER REQUIREMENT

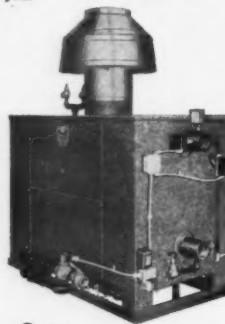
## PARKER INDUSTRIAL STEAM BOILERS

Easy to operate and maintain. Fully automatic, equipped with only the finest controls sold and serviced throughout the world. Delivered completely assembled—easy to install. Easily cleaned and completely accessible.



## PARKER INDUSTRIAL HOT WATER BOILERS

Incorporates all of the quality materials and construction features that have made Parker products famous throughout the world. Fully automatic, simple to maintain, delivering hot water at the lowest possible cost to you.



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Softens water the most economical and simplest way. Low initial cost—durably constructed for longer life. Engineered for proper distribution and efficient back-wash to cut water and salt consumption to a minimum. Equipped with the best solo valve for reliable and easy operation.

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## PARKER AUTOMATIC RETURN SYSTEMS

The Parker Packaged Return System provides fully automatic and reliable operation for boiler feed and condensate storage. Overhead system is compact, fully assembled for easy installation. Heavy duty piston or turbine pump—heavy steel tanks with automatic float valve. Durably built for longer life.

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BOILER**

MANUFACTURING COMPANY

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Los Angeles 58, California  
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... for more details, circle No. 70 on Reader Service Postcard

## C.F.&I. Opens First Wire Sling Shop in S.F. Bay Area



800 TON swaging press in background.

**SAN LEANDRO, CALIF.**—Wire slings—in rated capacities of from 47 tons to 1 lb.—are now being fabricated at the Colorado Fuel & Iron Corp. facility here.

C. F. & I. thus becomes the first major wire rope manufacturer to install a complete sling shop in the Bay Area. According to C. F. & I. officials, the shop was set up to handle demand for wire slings from growing industry in the West.

The slings are made of rope shipped from C. F. & I.'s Eastern facilities. Fabrication is done here on an 800 ton swaging press, which mechanically splices a special aluminum clamp. This cold-splicing is guaranteed to 100% of breaking strength.

All types of slings—including single part and braided—will be made with all types of fittings, including socketing work. The slings will be “tailor made to meet customer's requirements and delivery needs.”

For further information contact C. F. & I. offices in Spokane, Seattle, Portland, San Leandro and Los Angeles. Also, C. F. & I. has distributors in other major cities throughout the West.

Manuals on wire rope and slings (as described on p. 86 of the March WESTERN INDUSTRY) are available from Colorado Fuel & Iron Corp. For a copy, circle No. 400 on Reader Service Card.

### \$1,000,000 in First Quarter

**LOS ANGELES**—Electronics Specialties Co. received new orders of about \$1,000,000 during the fiscal quarter ended Mar. 31, according to *William Burgess*, president. This includes an Air Force contract for project Panda under development at Kirkland Air Force Base.

## American Can Co. Opens New Portland Facility

**PORLAND**—Cutting of a 12-ft. ribbon of roses—symbolic of industrial expansion in this City of Roses—marked the recent dedication of a new container-making department at American Can Co.

The cutting ceremony started up automatic machines which began turning out color-lithographed containers, at the rate of 250 per min., for the frozen fruit industry.

The recently completed production facility, representing a \$500,000 expansion, has a rated annual output capacity of 100 million containers, made of paperboard with metal ends. Together with other specialized production units in Seattle and San Francisco, it equips the company to produce 500,000,000 fruit and berry packages annually for freezers in the West.

The new department adds 30 to Canco's Portland payroll of about 550, and boosts average annual wages and employee benefits to nearly \$3,000,000.

private benefits to nearly \$1,000,000.

Taking parts in the dedication ceremony were Rose Queen Alice Eastman; E. I. Pitkin of the Northwest Canners & Freezers Association; Portland Chamber of Commerce President, Lofton L. Tatum, and Canco officials.

## New Cromer Plant and Lab to Begin Operations

LOS ANGELES — Operations are scheduled to begin this month at a new L.O.X. cleaning laboratory and enlarged processing plant constructed by Cromer Manufacturing & Engineering, Inc., 2138 E. 88th St.

The new buildings, comprising 20,000 sq. ft., will more than double the present capacity of the processing department, where all phases of metal processing—pickling, passivating, degreasing and L.O.X. cleaning — are done. Equipment includes processing tanks for tubing 32 ft. long, sheet tanks 10 x 15 ft., and degreasers up to 20 ft. long.

Features of the laboratory include pressurized atmosphere, pressure locked doors, temperature and humidity control and facilities for removal of all foreign contaminants to within two microns.

Entry in the space and missile age, plus demands created by the firm's postwar growth, made the need for the laboratory urgent, according to *W. M. Cromer*.

**New Seattle Branch  
for Berg Evans Chain Co.**

**PORLAND** — Berg Evans Chain Co. of Portland has opened a new Seattle branch at 2221 Fourth Ave., South, according to Howard Hochhalter, sales manager. Flave Lydum will manage the unit, which will handle the company's many power transmission products in Washington and part of Idaho.

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cylinder power you  
need. Send for this  
handy cylinder  
capacity chart.

Lester CYLINDER CAPACITIES										
CAPACITY OF CYLINDERS FOR VARIOUS PRESSURES, LBS. PER SQUARE INCH										
Size	100	125	150	175	200	225	250	275	300	325
1"	1.00	1.25	1.50	1.75	2.00	2.25	2.50	2.75	3.00	3.25
2"	1.50	1.60	1.75	1.85	2.00	2.10	2.20	2.30	2.40	2.50
3"	2.00	2.10	2.20	2.30	2.40	2.50	2.60	2.70	2.80	2.90
4"	2.50	2.60	2.70	2.80	2.90	3.00	3.10	3.20	3.30	3.40
5"	3.00	3.10	3.20	3.30	3.40	3.50	3.60	3.70	3.80	3.90
6"	3.50	3.60	3.70	3.80	3.90	4.00	4.10	4.20	4.30	4.40
7"	4.00	4.10	4.20	4.30	4.40	4.50	4.60	4.70	4.80	4.90
8"	4.50	4.60	4.70	4.80	4.90	5.00	5.10	5.20	5.30	5.40
9"	5.00	5.10	5.20	5.30	5.40	5.50	5.60	5.70	5.80	5.90
10"	5.50	5.60	5.70	5.80	5.90	6.00	6.10	6.20	6.30	6.40
11"	6.00	6.10	6.20	6.30	6.40	6.50	6.60	6.70	6.80	6.90
12"	6.50	6.60	6.70	6.80	6.90	7.00	7.10	7.20	7.30	7.40
13"	7.00	7.10	7.20	7.30	7.40	7.50	7.60	7.70	7.80	7.90
14"	7.50	7.60	7.70	7.80	7.90	8.00	8.10	8.20	8.30	8.40
15"	8.00	8.10	8.20	8.30	8.40	8.50	8.60	8.70	8.80	8.90
16"	8.50	8.60	8.70	8.80	8.90	9.00	9.10	9.20	9.30	9.40
17"	9.00	9.10	9.20	9.30	9.40	9.50	9.60	9.70	9.80	9.90
18"	9.50	9.60	9.70	9.80	9.90	10.00	10.10	10.20	10.30	10.40
19"	10.00	10.10	10.20	10.30	10.40	10.50	10.60	10.70	10.80	10.90
20"	10.50	10.60	10.70	10.80	10.90	11.00	11.10	11.20	11.30	11.40
21"	11.00	11.10	11.20	11.30	11.40	11.50	11.60	11.70	11.80	11.90
22"	11.50	11.60	11.70	11.80	11.90	12.00	12.10	12.20	12.30	12.40
23"	12.00	12.10	12.20	12.30	12.40	12.50	12.60	12.70	12.80	12.90
24"	12.50	12.60	12.70	12.80	12.90	13.00	13.10	13.20	13.30	13.40
25"	13.00	13.10	13.20	13.30	13.40	13.50	13.60	13.70	13.80	13.90
26"	13.50	13.60	13.70	13.80	13.90	14.00	14.10	14.20	14.30	14.40
27"	14.00	14.10	14.20	14.30	14.40	14.50	14.60	14.70	14.80	14.90
28"	14.50	14.60	14.70	14.80	14.90	15.00	15.10	15.20	15.30	15.40
29"	15.00	15.10	15.20	15.30	15.40	15.50	15.60	15.70	15.80	15.90
30"	15.50	15.60	15.70	15.80	15.90	16.00	16.10	16.20	16.30	16.40
31"	16.00	16.10	16.20	16.30	16.40	16.50	16.60	16.70	16.80	16.90
32"	16.50	16.60	16.70	16.80	16.90	17.00	17.10	17.20	17.30	17.40
33"	17.00	17.10	17.20	17.30	17.40	17.50	17.60	17.70	17.80	17.90
34"	17.50	17.60	17.70	17.80	17.90	18.00	18.10	18.20	18.30	18.40
35"	18.00	18.10	18.20	18.30	18.40	18.50	18.60	18.70	18.80	18.90
36"	18.50	18.60	18.70	18.80	18.90	19.00	19.10	19.20	19.30	19.40
37"	19.00	19.10	19.20	19.30	19.40	19.50	19.60	19.70	19.80	19.90
38"	19.50	19.60	19.70	19.80	19.90	20.00	20.10	20.20	20.30	20.40
39"	20.00	20.10	20.20	20.30	20.40	20.50	20.60	20.70	20.80	20.90
40"	20.50	20.60	20.70	20.80	20.90	21.00	21.10	21.20	21.30	21.40
41"	21.00	21.10	21.20	21.30	21.40	21.50	21.60	21.70	21.80	21.90
42"	21.50	21.60	21.70	21.80	21.90	22.00	22.10	22.20	22.30	22.40
43"	22.00	22.10	22.20	22.30	22.40	22.50	22.60	22.70	22.80	22.90
44"	22.50	22.60	22.70	22.80	22.90	23.00	23.10	23.20	23.30	23.40
45"	23.00	23.10	23.20	23.30	23.40	23.50	23.60	23.70	23.80	23.90
46"	23.50	23.60	23.70	23.80	23.90	24.00	24.10	24.20	24.30	24.40
47"	24.00	24.10	24.20	24.30	24.40	24.50	24.60	24.70	24.80	24.90
48"	24.50	24.60	24.70	24.80	24.90	25.00	25.10	25.20	25.30	25.40
49"	25.00	25.10	25.20	25.30	25.40	25.50	25.60	25.70	25.80	25.90
50"	25.50	25.60	25.70	25.80	25.90	26.00	26.10	26.20	26.30	26.40
51"	26.00	26.10	26.20	26.30	26.40	26.50	26.60	26.70	26.80	26.90
52"	26.50	26.60	26.70	26.80	26.90	27.00	27.10	27.20	27.30	27.40
53"	27.00	27.10	27.20	27.30	27.40	27.50	27.60	27.70	27.80	27.90
54"	27.50	27.60	27.70	27.80	27.90	28.00	28.10	28.20	28.30	28.40
55"	28.00	28.10	28.20	28.30	28.40	28.50	28.60	28.70	28.80	28.90
56"	28.50	28.60	28.70	28.80	28.90	29.00	29.10	29.20	29.30	29.40
57"	29.00	29.10	29.20	29.30	29.40	29.50	29.60	29.70	29.80	29.90
58"	29.50	29.60	29.70	29.80	29.90	30.00	30.10	30.20	30.30	30.40
59"	30.00	30.10	30.20	30.30	30.40	30.50	30.60	30.70	30.80	30.90
60"	30.50	30.60	30.70	30.80	30.90	31.00	31.10	31.20	31.30	31.40
61"	31.00	31.10	31.20	31.30	31.40	31.50	31.60	31.70	31.80	31.90
62"	31.50	31.60	31.70	31.80	31.90	32.00	32.10	32.20	32.30	32.40
63"	32.00	32.10	32.20	32.30	32.40	32.50	32.60	32.70	32.80	32.90
64"	32.50	32.60	32.70	32.80	32.90	33.00	33.10	33.20	33.30	33.40
65"	33.00	33.10	33.20	33.30	33.40	33.50	33.60	33.70	33.80	33.90
66"	33.50	33.60	33.70	33.80	33.90	34.00	34.10	34.20	34.30	34.40
67"	34.00	34.10	34.20	34.30	34.40	34.50	34.60	34.70	34.80	34.90
68"	34.50	34.60	34.70	34.80	34.90	35.00	35.10	35.20	35.30	35.40
69"	35.00	35.10	35.20	35.30	35.40	35.50	35.60	35.70	35.80	35.90
70"	35.50	35.60	35.70	35.80	35.90	36.00	36.10	36.20	36.30	36.40
71"	36.00	36.10	36.20	36.30	36.40	36.50	36.60	36.70	36.80	36.90
72"	36.50	36.60	36.70	36.80	36.90	37.00	37.10	37.20	37.30	37.40
73"	37.00	37.10	37.20	37.30	37.40	37.50	37.60	37.70	37.80	37.90
74"	37.50	37.60	37.70	37.80	37.90	38.00	38.10	38.20	38.30	38.40
75"	38.00	38.10	38.20	38.30	38.40	38.50	38.60	38.70	38.80	38.90
76"	38.50	38.60	38.70	38.80	38.90	39.00	39.10	39.20	39.30	39.40
77"	39.00	39.10	39.20	39.30	39.40	39.50	39.60	39.70	39.80	39.90
78"	39.50	39.60	39.70	39.80	39.90	40.00	40.10	40.20	40.30	40.40
79"	40.00	40.10	40.20	40.30	40.40	40.50	40.60	40.70	40.80	40.90
80"	40.50	40.60	40.70	40.80	40.90	41.00	41.10	41.20	41.30	41.40
81"	41.00	41.10	41.20	41.30	41.40	41.50	41.60	41.70	41.80	41.90
82"	41.50	41.60	41.70	41.80	41.90	42.00	42.10	42.20	42.30	42.40
83"	42.00	42.10	42.20	42.30	42.40	42.50	42.60	42.70	42.80	42.90
84"	42.50	42.60	42.70	42.80	42.90	43.00	43.10	43.20	43.30	43.40
85"	43.00	43.10	43.20	43.30	43.40	43.50	43.60	43.70	43.80	43.90
86"	43.50	43.60	43.70	43.80	43.90	44.00	44.10	44.20	44.30	44.40
87"	44.00	44.10	44.20	44.30	44.40	44.50	44.60	44.70	44.80	44.90
88"	44.50	44.60	44.70	44.80	44.90	45.00	45.10	45.20	45.30	45.40
89"	45.00	45.10	45.20	45.30	45.40	45.50	45.60	45.70	45.80	45.90
90"	45.50	45.60	45.70	45.80	45.90	46.00	46.10	46.20	46.30	46.40
91"	46.00	46.10	46.20	46.30	46.40	46.50	46.60	46.70	46.80	46.90
92"	46.50	46.60	46.70	46.80	46.90	47.00	47.10	47.20	47.30	47.40
93"	47.00	47.10	47.20	47.30	47.40	47.50	47.60	47.70	47.80	47.90
94"	47.50	47.60	47.70	47.80	47.90	48.00	48.10	48.20	48.30	48.40
95"	48.00	48.10	48.20	48.30	48.40	48.50	48.60	48.70	48.80	48.90
96"	48.50	48.60	48.70	48.80	48.90	49.00	49.10	49.20	49.30	49.40
97"	49.00	49.10	49.20	49.30	49.40	49.50	49.60	49.70	49.80	49.90
98"	49.50	49.60	49.70	49.80	49.90	50.00	50.10	50.20	50.30	50.40
99"	50.00	50.10	50.20	50.30	50.40	50.50	50.60	50.70	50.80	50.90
100"	50.50	50.60	50.70	50.80	50.90	51.00	51.10	51.20	51.30	51.40

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*Ledeen Mfg. Co.*

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El Monte, California

... for more details, circle No. 71 on Reader Service Postcard

## Easterday Supply Moves to New Los Angeles Facility

LOS ANGELES—Easterday Supply Co., manufacturer and supplier of sanitation and maintenance materials, has announced completion of its move to a new 25,000-sq. ft. office and warehousing facility at 901 E. 61st St. An additional 7,000-sq. ft. building will be used for manufacturing and research.

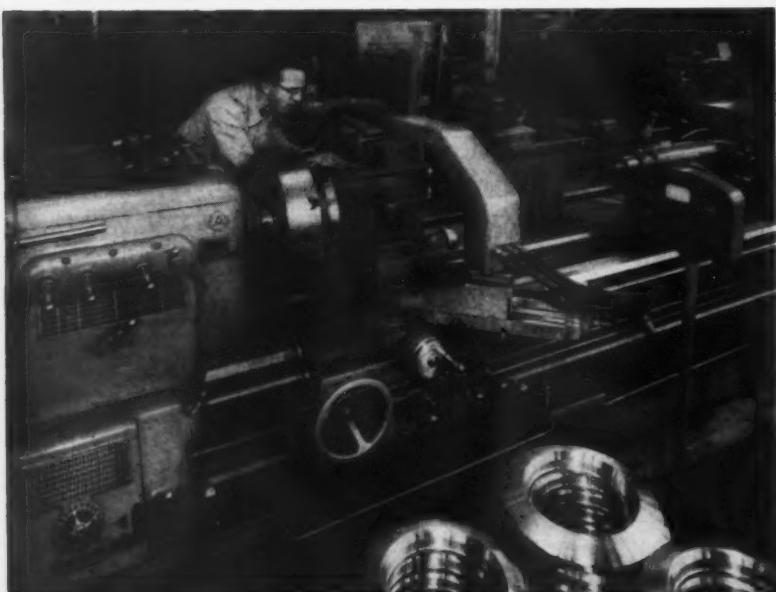
According to *Sydney J. Rosenberg*, president of the San Francisco firm, the new facility features a unique display room that contains various types of floors typical of buildings in the West. This will be used as a demonstration area for solving problems in

the care and maintenance of all types of floors.

The display room will also give customers an opportunity to examine the many types of new cleaning and sanitation supplies. The firm will also use it for the custodial school program, "Easterday's Kollege of Janitorial Knowledge", offered free to maintenance personnel in the West.

Steel pallet racks, fork lift trucks and conveyor systems are some of the modern material handling equipment at the new plant, Rosenberg said.

In charge of Southern California operations are *Albert I. Mack*, general manager, and *William D. Dreyer*, sales manager. *George Mackanic* has been named plant manager in charge of manufacturing.



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... for more details, circle No. 72 on Reader Service Postcard

## Teletype Network Joins Clark Dealers, Offices



DEMONSTRATING THE NEW communication system that links dealers and company headquarters of Clark Equipment Co. are *Don S. Ferguson* (left), vice president of Robert H. Braun Co.; *Robert H. Braun, Sr.*, president, and *Mrs. Gwen Murphy*, teletype operator.

LOS ANGELES—A 13,000-mile communication network now connects 101 Clark Equipment Co. dealers in the U. S. and Canada with all parent company plants and sales offices. Each dealer (and each customer) has instant communication with every other factory and dealer.

For example, if a parts order comes in that cannot be filled from the stock of the Robert Dodd Co., in Portland, the order would immediately be teletyped to other dealers like Lifton, Inc., in San Francisco and Oakland, or the Robert H. Braun Co. in Los Angeles—either of which would advise whether they had the part and were nearest to the dealer requesting it.

Within minutes the part can be on its way from the nearest source. For Clark customers the system means faster and more accurate filling of their orders.

## Chase Steel & Supply Occupies New Quarters

LOS ANGELES—Now operating from new quarters with double the capacity it had available before is Chase Steel & Supply Co., 2707 S. Supply Ave. The new warehouse occupies 20,000 sq. ft. and there is an additional 8,000 available for expansion.

New equipment at the steel service center includes a two-ton overhead traveling crane, a 6,000-lb. electric fork lift, freight car unloading equipment used with roller conveyors, and high-speed power hacksaw that can cut up to 10-in. diameter steel bar.

Chase carries a complete stock of stainless steel bar products, as well as drills, reamers and other tools and related products of well-known manufacturers.

## **Allen-Bradley Opens LA Office; Easterbrook Retires**

LOS ANGELES—Opened June 2 by the Allen-Bradley Co., was a new district office in the former quarters of the H. D. Easterbrook Co., 1264 S. Boyle Ave. *H. D. Easterbrook*, manufacturer's representative for the firm in this area since 1947, has announced his retirement.

Manager of the new office will be *Frank J. Connolly*, previously with the New York district office of the electric control equipment manufacturer. Other staff members include *Frank L. Koenig*, field engineer, and *Robert H. White*, distributor sales.

## **Ling Electronics Moves into Culver City Plant**

CULVER CITY, CALIF.—Ling Electronics, Inc., has completed its move into a new 38,400-sq. ft. plant that provides increased floor space for assembly and specialized manufacturing operations. It also houses engineering and warehouse facilities, research laboratories and a large office area.

Ling is a pioneer in design and manufacture of high-power electronically driven systems for random, complex and sine wave vibration testing, and also manufactures sonar equipment, amplifiers and other electronic instruments.

## **Ideal May Build Cement Terminal in Tacoma**

PORLAND—Intended plans for a cement storage and distribution terminal in Tacoma, Wash., have been disclosed by Ideal Cement Co., purchaser of a 29-acre tract of land on the Port Industrial Waterway.

Construction of a cement manufacturing plant—costing some \$15,000,000—is also reported under consideration.

## **Adelman Machinery Adds Jay Bee Hammermill Line**

SEATTLE—The Adelman Machinery Company was recently appointed to represent the Jay Bee line of hammermills (manufactured by J. B. Sedberry, Inc., of Franklin, Tenn., and Tyler, Tex.) throughout most of Washington and in southern British Columbia. The Jay Bee line consists of specialty hammermills used for grinding feed and grain, sawdust, nutshells, oyster shells and many other substances.

## **Ellicott Machine Opens Western Branch Office**

SAN FRANCISCO—Ellicott Machine Corp., dredge manufacturer, has opened a branch office here in Room 507, Underwood Building, 525 Market. Heading the facility for sales, engineering and field service on all types of dredges

is *Charles M. Romanowitz*, formerly sales director for the Yuba Mfg. Co.

Ellicott specializes in design and manufacture of every kind of hydraulically and mechanically operated dredge. Opening of the Western office is part of a long-range expansion and diversification program.

## **Engine & Supply Firm Appointed Distributor**

ALHAMBRA, CALIF.—Newly-appointed distributor for Pacific Mercury flasher warning lights is Ja. R Engine & Supply Co., 1819 W. Valley Blvd. The supplier will handle the complete line of seven models, including both neon and transistor lights, and maintain parts and service facilities for all models.

## **Western Foundry Plans New Portland Facility**

PORLAND—A new foundry and plant for Western Foundry Co., involving an investment of from \$300,000 to \$400,000 is expected to be in production in late August, according to *R. E. Huffschmidt*, president.

The new plant, located on an 8-acre tract in Tigard, Ore., near here, was made necessary by construction of the Baldock Freeway extension, which passes through the old Western Foundry plant at 2400 S. W. Water Ave.

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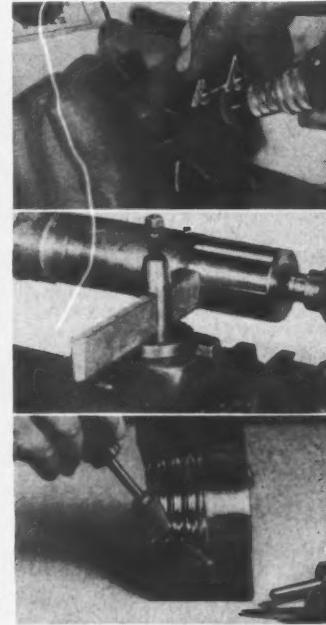
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SMOOTHING, CLEANING,  
POLISHING on HARD or SOFT  
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 Stainless Steel     Aluminum     Brass & Bronze     Cast Iron     Heat-treated Steel     Special Alloys

... for more details, circle No. 73 on Reader Service Postcard

## Moffett Engineering Names Stanley Morris as Agent

LOS ANGELES—Southern California sales agent for cranes and hoists made by Moffett Engineering, Inc., is the Stanley E. Morris Co., 5584 Alhambra Ave.

Announcement of the recent appointment was made by the Moffet management, stating that the Morris firm is qualified to give both engineering and sales effort for Moffet's line of custom manufactured and engineered electric traveling cranes, bridge cranes, gantries, stationary gate hoists and related electric drive equipment.

The Morris company has been in the

material handling equipment sales since 1919. Moffett, established 25 years ago, produces cranes from  $\frac{1}{4}$  to 650-ton capacity.

## Lily-Tulip Container Plant Dedicated in Riverside

RIVERSIDE, CALIF.—Recently dedicated here was a 326,000-sq. ft. plant built by the Lily-Tulip Corp., for production of cups, containers and food packages. Fifth major plant of the company, it has about 170 employees, a figure expected to be doubled by next fall. *Richard Thompson* is plant manager.

**SR** ... the dc rectifier type welder with new completely sealed semimetallic rectifier, new transformer and new weld stabilized circuit. Result is easiest arc starting ever, maximum arc stability, sounder, denser welds, current that handles all electrodes in all positions! Four models, 200 to 600 amps.

**SRH** ... the same revolutionary improvements that set the Gold Star SR above and beyond the performance standards ever before achieved by a dc rectifier type welder. Designed primarily for compactness, the SRH is only 30 $\frac{1}{4}$ " high — is ideally suited for stacking or paralleling in minimum space. Three models, 200 to 400 amps.

**300** ... combination ac/dc welder design comes of age with this new Miller model. Features new magnetic amplifier circuit; improved wave form; new arc starting control; three electrically controlled current ranges for finest adjustment; instant changeover from ac to dc, built-in high frequency. An entirely fresh concept for inert gas and metallic welding. Four basic models with kits available to convert to seven different types of welders.

**300-M** ... an ac welder for inert gas and metallic arc processes. Combines unequalled welding characteristics with Miller's unique electric control circuit which permits precise slow or fast start. Features built-in high frequency, primary contactor and 15 KVA control transformer. Offered in three basic models of from 200 to 400 amperes with optional water and gas controls available.

Complete particulars on any of the above welders will be sent promptly.

**miller**  
ELECTRIC MANUFACTURING COMPANY, INC. Appleton, Wisconsin  
Distributed in Canada by Canadian Liquid Air Co., Ltd. Montreal P.O.

... for more details, circle No. 74 on Reader Service Postcard

## Part-time Picassos Paged For WESCON Exhibit

LOS ANGELES—WESCON is paging part-time Picassos in the electronics industry, according to *Frank Menges*, Magnavox Research, who is chairman of the third annual Art in Electronics Exhibit at the 1958 Western Electronic Show and Convention here Aug. 19-22.

Liberalized entrance requirements and more attractive awards are offered for this year's art event. Entrants in any of the four general categories—painting, sculpture, crafts or photography must be employed in the industry or be in the immediate family of someone working in electronics. The theme of the art or craft work need not be confined to electronic components or equipment, Menges said.

First prize winner in each group will get a trip for two to Las Vegas, with a three-day stay at the Sands Hotel (meals included) plus \$50 in cash. Second prize in each category is \$50 cash.

Exhibit works are put up for auction during the show, with proceeds going to the WCEMA Scholarship fund. But this year artists may set a minimum price on their works so they may recover their costs.

Paintings and photos should be suitably framed or matted and wired for hanging; other objects should be properly prepared for display and insurance arranged by entrants. All should be shipped by August 5 to Magnavox Research Section, Brugger Fine Arts Forwarding Service, 2110 West 20th St., Los Angeles 18.

## Tag and Label Company Formed In San Francisco

SAN FRANCISCO — The Beacon Tag and Label Co., a new firm that will specialize in tags, labels and seals for the industrial and retail trade, was recently formed by *Jack Neely* and *Bob McCormack*. General offices are at 735 Tehama St.

## Kenworth Buys Assets of Dart Truck Co.

SEATTLE—Announced recently by Kenworth Motor Truck Division of Pacific Car and Foundry Co. was its purchase of most assets of the Dart Truck Co., Kansas City, Mo.

A new manufacturing and administrative facility for the newly-formed firm, called the KW-Dart Truck Co., will be built in Kansas City, and then production of Kenworth's complete line of rock and ore moving trucks will be moved there from the West Coast.

Kenworth, the West's oldest and largest manufacturer of heavy-duty motor trucks, builds custom-engineered highway and off-highway trucks with gross vehicle weights of 33,000 to 110,000 lb.

## Formal Opening of New Liquid Carbonic Plant

OAKLAND—Scheduled for its formal opening in about a month is the new liquid oxygen plant of Liquid Carbonic Division of General Dynamics Corp. Initial production of the 25-ton-per-day facility began in February. The plant is located on the firm's property at 2857 Ettie St. H. P. McCoon is regional production superintendent for Liquid Carbonic and Reid Julien, regional general manager, both headquartered at the firm's San Carlos facilities.

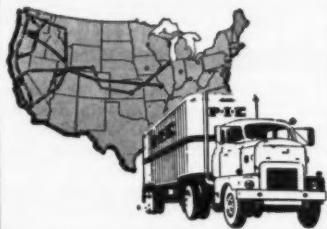
## A-F Associates is New Electronic Rep Firm

PASADENA, CALIF.—A-F Associates is the name of a newly-formed electronic equipment manufacturers' representative firm at 385 E. Green St. Gerry A. Friederici and Tway W. Andrews head the company.

California manufacturers represented include Eldema Corp., El Monte; Resistron, Pasadena; San Jose Scientific Co., San Jose, and Voak Engineering, Upland.

Other products the firm will handle include those of Trio Laboratories, Inc., Seaford, N. Y., and Iron Fireman Manufacturing Co., of Portland.

**Shippers Agree...  
It's P.I.E!**



**P.I.E**

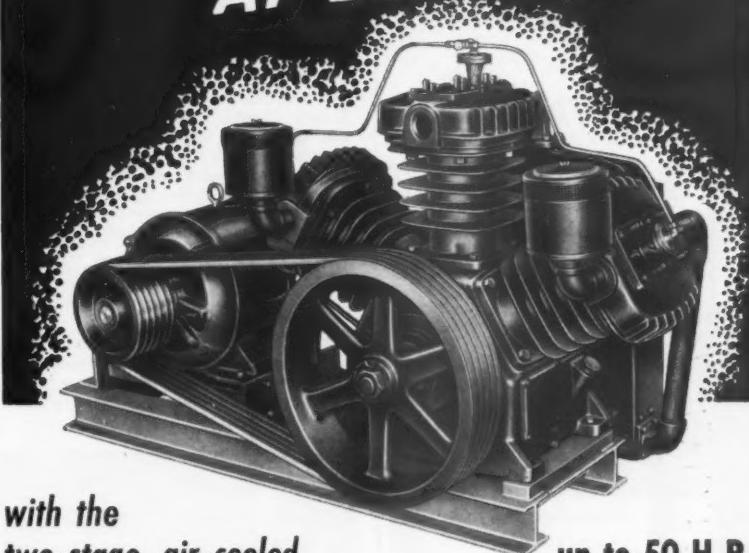
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IN PRINCIPAL CITIES

GENERAL OFFICES: P-I-E BUILDING  
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... for more details, circle No. 75  
WESTERN INDUSTRY — June 1958

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*two-stage, air-cooled*      up to 50 H.P.

## CURTIS AIR COMPRESSOR

### ● Greater Efficiency

The highly efficient C-100 air compressor delivers more air per minute, per horsepower and per kilowatt hour of electrical energy consumed, resulting in lower electric bills.

### ● Low Cost Installation

Since it is *air-cooled*, you are not faced with expensive plumbing installation costs. Water bills are eliminated entirely. Peak efficiency, together with low cost installation and minimum maintenance—all adds up to your best buy in air compressors today.

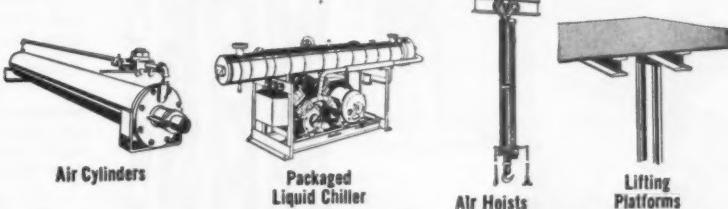
Remember, you can count on

C-39

# Curtis

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L. L. MEIKLE—West Coast Representative  
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R. K. McCoy, 3033 San Pablo Ave., Berkeley 2, Calif.  
Ed Craven, 1018 Southeast Eighth Ave., Portland 14, Oregon

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101

*High Visibility*

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ON-THE-JOB SPEED  
AND ACCURACY

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Steel Measuring Tapes

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## Bronco Busters at Fork Truck Rodeo

**WEST BEATS EAST**—Clyde Hinckley (center), past president of the Los Angeles chapter of the American Material Handling Society (AMHS), congratulates the winner, Ray Paxton (right), Certified Grocers Co., Los Angeles, who nosed out Earl LaForce, the Eastern regional champion, representing the Ohio Rubber Co. of Willoughby, Ohio.



**CAREFUL THERE!**—Judges were stationed every step of the way over the rugged course noting the performance of contestants. Here a judge scores a stacking performance in the narrow aisle event.

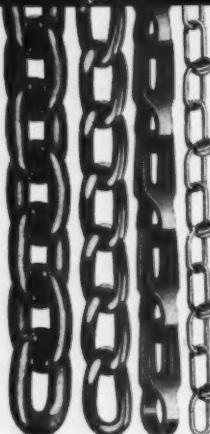


**NARROW AISLE WINNER**—Frankie Tadia (center), of S & H Stamps, poses proudly with his boss, Ronald O. Watson (left), and W. T. Billard, of W. T. Billard, Inc., who sold the winning Raymond truck.



## American Offers You More Chain to Fill More Needs Than Any Other Manufacturer

**ACCO**  
for Better  
Values



From American Chain you can get over 400 different chains in a range of types, sizes, metals, designs, and finishes to meet any application. What's more, nearly all of your chain requirements can be filled from regular stock items.

These hundreds of ACCO chains are of two basic types—welded and weldless. The four basic patterns that go to make up all chain are shown at left.

Whatever your chain needs—large or small, special or regular—American can fill them. When a job calls for chain, nothing but chain will do!

Ask about ACCO's Complete line of  
**SLING CHAINS** and **COTTER PINS**

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**AMERICAN CHAIN & CABLE**

York, Pa., Atlanta, Boston, Chicago, Detroit, Houston, New York, Philadelphia, Pittsburgh, Bridgeport, Conn.

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WESTERN INDUSTRY — June 1958

## Washington Belting & Rubber Adds Two Lines

SEATTLE—Two new transmission lines have recently been added by Washington Belting & Rubber Co., Tacoma, according to A. L. Lanham. Washington Belting now has distribution in the Washington territory for Extremultus leather-nylon power transmission belting, made in Germany and distributed in the U. S. through Extremultus, Inc. of New York. Lanham announced that the company has also been appointed distributor in Washington for the Ohio Gear Co., manufacturer of speed reducers, stock and special gears.

### Start of Santa Clara's Canning Industry Noted

SANTA CLARA, CALIF.—The founding of Santa Clara county's multi-million dollar food processing industry—and the pioneer canners who founded it—were honored recently by leaders of California's canning industry. Ceremonies included installation of a historical marker at the site of the first cannery, founded in 1871 by Dr. and Mrs. James M. Dawson. Among those participating in the ceremonies, a feature of this year's 100th anniversary of the California canning industry, were officials of the Canners League of California, American Can Co., Santa Clara civic officials and Ernest Dawson, grandson of the canning pioneers.

### Plant Expansion for Chino Division of Kennecott

HURLEY, N. MEX.—Chino Mines Division of Kennecott Copper Corp. is asking bids on an addition to its power plant here. The project, expected to cost about \$3,250,000, is part of a \$6,000,000 investment in new equipment announced by the division last year.

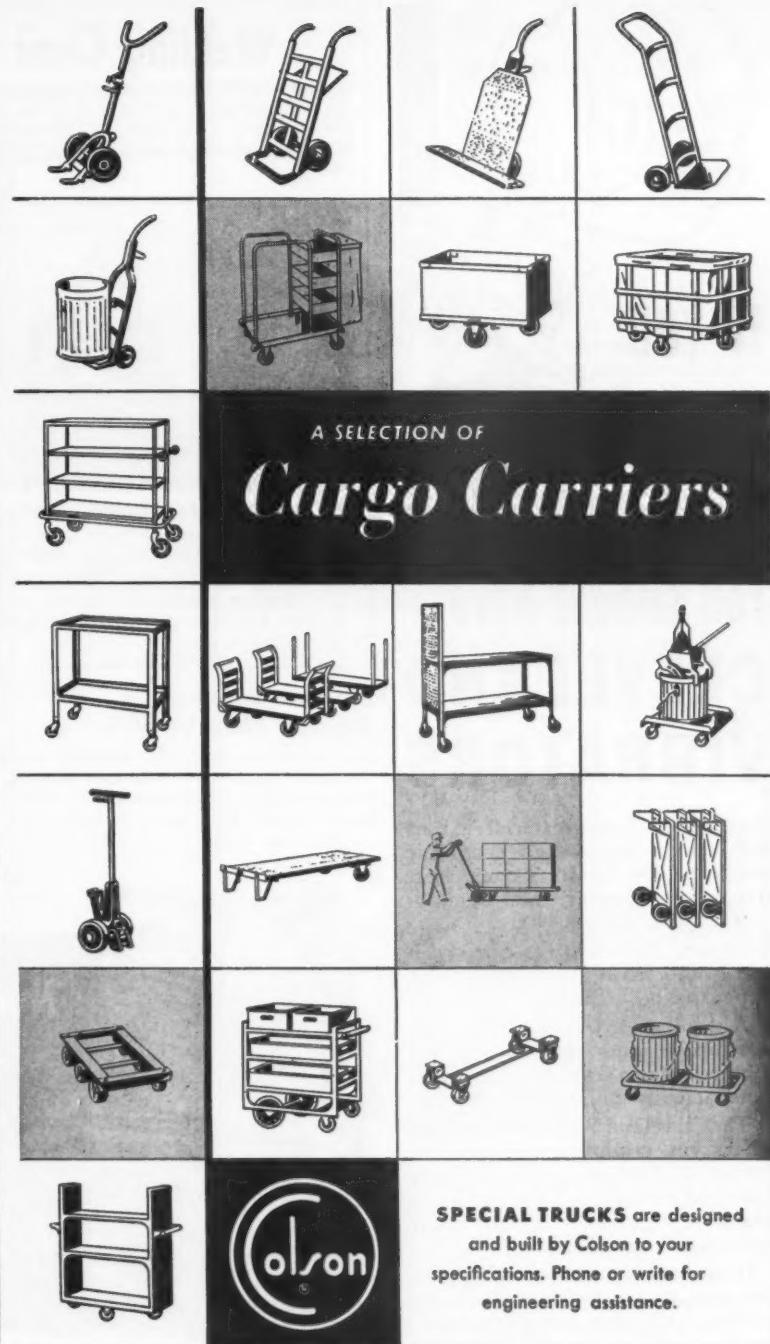
The expansion will include construction of more building space with expanded boiler capacity, new switching gear and cooling tower facilities.

### Denver Firm Named Drayer-Hanson Agent

DENVER — A newly formed sales representative organization, Rocky Mountain Aircold Co., 524 Knox St., has been named sales agent for Drayer-Hanson air conditioning and refrigeration equipment, in the Mountain states.

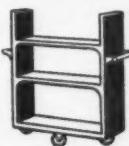
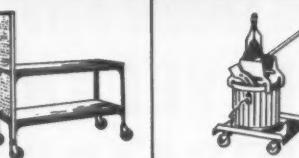
*Dean L. Heglin* and *V. L. Herzog*, the new firm's principals, were both formerly affiliated with Thermo Supply, Inc., Denver, formerly a Colorado representative for Drayer-Hanson.

Rocky Mountain Aircold will also handle non-competitive lines of Cobra Metal Hose and some products of Bendix-Westinghouse.



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**SPECIAL TRUCKS** are designed and built by Colson to your specifications. Phone or write for engineering assistance.

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You should have  
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VIBRATORS****

Anyone who stores materials in bins will find a vibrator an economic necessity. Bin vibrators completely overcome plugging and jamming.

The only substitute is a sledge hammer. This involves first, valuable man hours and secondly, expensive bin damage.

A bin vibrator will eliminate these costs. As a result, they will pay for themselves in a very short period of time, actually a matter of weeks.

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104

## Welding Clinic at Bralco Metals



AT THE FOUR-DAY open house and welding clinic held by Bralco Metals Co. of Los Angeles are (l. to r.) Hunter Keck, vice president and sales manager; Claude Cohn, president, and, from Reynolds Metals Co., Claude Bruno.

LOS ANGELES—Welding, brazing and soldering aluminum techniques were demonstrated to more than 700 who attended the Bralco Metals, Inc., welding clinic May 20-23 at 6489 E. Corvette St. Practical demonstrations were given by Charles Bruno, chief welding engineer at Reynolds Metals Co., and an aluminum welding authority. Welding equipment was shown by Air Reduction Pacific Co., Linde Air Products, Nelson Stud Welding and other firms.

### Products Research Co. Expands Plant by 50%

LOS ANGELES—A recent addition to its Western manufacturing facility at Glendale will add an effective 50% to the plant area of Products Research Co.

The new building provides storage

and handling room for the firm's synthetic rubber caulking and sealing compounds, plus increasing the production potential. More than 150 people are employed at the plant in producing architectural, building, aircraft and industrial sealants and coatings.

**Wow—What a BUY!!**

**Never before at  
this LOW price!**

**Smith's new  
"Big 98" for \$98**

All-purpose welding cutting outfit

**DOES MULTIPLE JOBS**—welds, cuts, heats, brazes, solders . . . offers an exceptional value unmatched in the welding industry today. Cuts to 1"; welds to  $\frac{1}{8}$ ". Additional tips increase cutting range to 4"; welding capacity to  $\frac{1}{8}$ "—also adapt torch to scarfing, gouging, etc. Assures clean, high-speed cuts with minimum gas consumption.



Here's what you get—torch body, 3 welding tips, cutting assembly, cutting tip, oxygen and acetylene regulators, goggles, lighter, and hose—all for only \$98.00 (U.S.A.).

**MANY FEATURES** include . . . Slip-In Tips that tighten with fingertip pressure only . . . no wrench needed. Exclusive "Flo-Trol" diaphragm stops causes of backfires; eliminates seat burn-out; reduces downtime. Brand new bright-nickel finish.

Go great—go "Big 98" in '58

2625 FOURTH STREET, S.E., MINNEAPOLIS 14, MINNESOTA  
... for more details, circle No. 81 on Reader Service Postcard

WESTERN INDUSTRY—June 1958

## Founder of ASM Dies of Heart Attack

LA JOLLA, CALIF.—*William H. Eisenman*, national secretary of the American Society of Metals, died May 30 of a heart attack. He was 73.

Eisenman, who founded the American Society of Metals, was well known in the West for his repeated management of the Western Metal Exposition and Congress, another presentation of which is set for next March.

## Borg-Warner Pesco Division Opens Western Branch

LOS ANGELES — PESCO Products Division of Borg Warner Corp. has announced establishment of a Western branch for design, development and production of special-purpose a-c generating equipment.

Presently situated at 14542 Ventura Blvd., Sherman Oaks, the new branch will later be housed in a 20,000 sq.-ft. manufacturing-engineering facility to be built in the Burbank area.

The Western branch will have full-scale engineering and manufacturing facilities, but will also function as sales and service representatives for PESCO's complete line of aircraft and industrial products in the West.

General manager of the branch is *R. B. Harlan, Jr.*, former Western regional sales manager. Operations manager is *Allen T. Puder*, former president of Ruckstell Corp.

## \$1,500,000 Research Unit Planned by Litton

CULVER CITY, CALIF.—Plans for construction of a \$1,500,000 engineering and research facility are announced by Litton Industries, Beverly Hills.

The facility will consist of a recently completed building at 10916 Washington Blvd. and two more buildings to be constructed, forming a two-story plant.

Advanced electronic research, precision electronic assembly and some of Litton's space research program will be conducted at the installation, which is the eighteenth unit of the company.

## Zero Adds Two Reps

BURBANK, CALIF.—Zero Mfg. Co. has recently added two Western engineering firms to its list of representatives. They are *T. E. Delius Co.*, 318 Westland Ave., North Seattle, Wash., covering Washington and Oregon, and *Wallace Connolly*, 160 Babarada Way, Menlo Park, for Northern California.

## Taraba to Distribute Black & Webster Line

PORTRLAND — The Joseph F. Taraba Co., Portland and Seattle manufacturers' representatives, announces appointment to distributorship of the line of all-electric impact tools made by Black & Webster, Inc., Newton, Mass. The

Black & Webster line includes high speed solenoid-operated punches and presses for a wide variety of production operations including staking, riveting, marking, steel stamping and other jobs where speed and economy are essential.

## Colson Dealers Attend Meeting in Arkansas

LOS ANGELES—In Jonesboro, Ark., recently for a meeting of all Colson Corp. dealers was *George Cherry*, general manager of Colson Equipment & Supply Co., Los Angeles.

Other Western dealers represented were *R. H. Brown Co.*, Seattle, and *Armstrong Caster Co.*, Denver. Dealers at the meeting visited the new Colson plant which recently began operation.

## Western Schools to Share In Hercules Co. Grants

WILMINGTON, DEL.—Two Western schools are among 24 to share in some \$100,000 in unrestricted grants-in-aid given by Hercules Powder Co.

A principal goal of the program, which is in its third consecutive year, is to improve and expand understanding between scientific personnel in industry and those on college and university levels, according to *Albert E. Forster*, Hercules president and board chairman.

Western recipients are California Institute of Technology and the Colorado School of Mines.

## LOOK AT YOUR FLOORS ....your safety engineer does!



CHILDREN'S HOSPITAL,  
Los Angeles

Floors and hallways in this modern medical center are kept safe and beautiful with Columbia Floor Care Products.

Of course he cares about the appearance of your floors, but he wants to be positive they are safe. Like Safety Engineers in many of the West's biggest industrial plants, he knows safety underfoot is positive when you use Columbia Floor Care Products because Columbia specializes in the manufacture of floor polishes, waxes, cleaners and sealers exclusively. There's a Columbia product specifically made to provide maximum safety—and long lasting beauty—for each type of flooring material and all floor conditions.

A Columbia field representative will be glad to show your Safety Engineer how he can be sure your floors will be safer. Why not suggest he ask for an on-the-floor demonstration today? No obligation, of course.

## Columbia Wax Company

Representatives throughout the West to serve you

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BEST BUY  
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**NEW**  
**Weld-Bilt**  
**VERTI-LIFT**  
**TOPS ALL in work**  
**per-dollar-invested**

"Weld-Bilt"  
PRODUCTS

### Capacity to 1500 lbs. Lifts—64" to 112"

- Saves time, labor, money in small or large plants.
- Engineered for strength, durability, trouble-free service.
- Electro-Hydraulic "Unitized" Power Unit.
- Easy to Move, Push-Button Controlled.
- Built-In Charger, Charging Indicator and Ammeter.
- Dual Floor Locks—Self-Aligning.

West Coast Representatives  
P. F. O'Donnell Co., 2298 Jerrold Ave., San Francisco; Keville Ind. Service, 1590 Ganeshia Place, Pomona; Equipment Supply Co., 16 Post Office Place, Salt Lake City; Equipment Engineering Co., 1400 Ruth Drive, Thornton, Colorado; Styco Sales Inc., 312 Industrial N.E., Albuquerque; Hallidie Machinery Co., 1915 N.E. Union, Portland; Preston Feller Co., 1921 Minor Ave., Seattle; Liftco, Inc., 4324 East Trent Ave., Spokane.

WRITE for Complete Catalog.

WEST BEND EQUIPMENT CORP.

307 River Road, West Bend, Wis.

Materials Handling Engineers since 1932

... for more details, circle No. 83

106

### Atkins Saw Division Moves in Portland

PORTLAND — The Portland branch of Borg-Warner Corp., Atkins Saw Division, has recently moved to a new 20,000-sq. ft. warehouse and office headquarters at 337 N. E. Tenth Ave., which will provide about double the former space on N. W. 16th Ave.

According to Art W. Roark, division manager, the move is part of an expansion that will enable the branch to serve the 11 Western states and will eventually increase plant personnel here from 17 to 50.

Kenneth A. Halcomb is Portland manager of the division, which has branches in Los Angeles, Chicago, Chattanooga and Philadelphia.

### Hallidie to Handle Carmet, Niagara Tools

SEATTLE—Hallidie Machinery Co. announces its appointment to the distributorship of Carmet carbide cutting tools manufactured by Allegheny Ludlum Steel Corp.

Hallidie will distribute the line from full stocks carried in its Portland and Spokane branches as well as Seattle headquarters. The firm also has an exclusive franchise for distributing sheet metal working machine tools manufactured by Niagara Machine Tool Co., Buffalo, N.Y.

### West Germany Distributor

PORTLAND—Beatty Safway Scaffold Co. of Oregon has acquired Oregon and southwestern Washington distribution rights for the Beatty-Pocco horizontal shore developed in West Germany for reducing cost of concrete slab form work in building and road construction. The shore is a telescoping all-steel member that will adjust to span areas of 8½ to 27½ ft.

## WESTERNERS

### AT WORK ...

#### J. E. Haseltine & Co.

... announces three promotions on the firm's executive staff. Harry England, former department manager, has been advanced to division manager of the new sporting goods division. Jack Frezza, formerly a salesman in the Yakima territory, has been assigned to the Portland headquarters as a steel and pipe specialist, and Earl Chamberlain has been appointed field sales supervisor over 21 sales territories.

#### Lamson Mobilift Corp.

... has appointed Edward Bloom purchasing agent. A Lamson employee since 1941, Bloom has been a machine shop foreman and, for the past year, superintendent of Lamson's Plant No. 1 machine shop and assembly functions.

#### Aeroquip Corporation

... has appointed Philip G. Cawrey as aircraft sales manager, according to C. W. Sawhill, general sales manager of the Western Division, Burbank, Calif. Cawrey's duties will include responsibility for all marketing activities relating to the division's aircraft products line. He joined the firm in 1951.

#### Aluminum Co. of America

... has a new superintendent, E. Miles Swarts, at its Vancouver Extrusion mill. He replaces W. J. Coleman, now foil division superintendent at Alcoa's Edgewater Works. Swarts, an Alcoa employee since 1943, has recently been works manager with Alcomex, an Alcoa associated company, at its extrusion plant in Mexico City. Coleman joined Alcoa as a metallurgist in 1941, and has been at Vancouver since 1954.

### LOW-COST PORTABLE SHELTER FOR INDUSTRY



A LOW-COST UTILITY BUILDING

... IN A HURRY!

An all-purpose building. Ideal for temporary offices during expansion; or for emergency storage of tools, supplies, etc.

\$218

(9' x 6"—1 door and 1 window)  
f.o.b. Oakland, California

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### LOW-COST PORTABLE SHELTER FOR INDUSTRY

... for more details, circle No. 84 on Reader Service Postcard

WESTERN INDUSTRY—June 1958

## Westinghouse Electric Corp.

... has named Brian J. Sturman, Jr., to succeed Frank H. Robb, retired, as manager of its manufacturing and repair plant at Compton. Sturman joined the corporation in 1939, has taken its special management course at Harvard, and most recently has been assistant manager of the Los Angeles area M&R plant.

## Utah Copper Division

... of Kennecott Copper Corp., has appointed Frederick C. Green to be general manager, succeeding L. Fern Pett, who retired April 30. Green first joined the company in 1917, has served in many and varied capacities, and became assistant general manager of the Utah Copper division in 1953.

## Sturdi-Bilt



H. Ries

... material handling division of Union Asbestos & Rubber Co., has announced appointment of **Hugo Ries** as Western Regional manager. Associated with Cutler-Hammer Inc. for 23 years before joining Sturdi-Bilt, Ries will direct the division's distributors in Washington, Oregon, California, Nevada, Arizona and New Mexico. His office is at 429 South Western Ave., Los Angeles 5.

## Pacific Intermountain Express

... has two new district managers—**R. G. Lochmiller** at Portland and **A. T. Bozich** at Denver. Lochmiller, who joined P-I-E 16 years ago, moves to Portland from Denver. Bozich has been an administrative assistant to the vice president of operations for four years and joined the company in 1946.

## Waste King Corp.

... reports two appointments at its Technical Products Division, Los Angeles—**Frank J. Gallagher**, superintendent of one of the three facilities there, and **James R. Garner** chief manufacturing engineer of the division. Gallagher was formerly a production engineer with Aerojet General and has also been with Ryder-Elliott, Inc., General Tire & Rubber Co. and other firms. Garner, who will supervise liaison between the division's design and production departments, estimating, tooling and production planning, was previously with Clary Corp., and E. B. Hall & Co.

## Sundstrand Turbo Division

... recently formed unit of Sundstrand Machine Tool Co., has appointed two Denver men to coordinate activities in company plants at Pacoima, Calif., and Denver. They are **Harry M. St. John**, who has been named assistant general manager of the whole division, and **Joseph C. Triolo**, assigned to the newly-created position of works manager at the division's Denver plant. The Turbo division is the result of Sundstrand's recent purchase of American Machine and Foundry Company's plant at Pacoima.

# NEW



## ROPER

### T-SERIES PUMP UNIT

#### Compact, Integral Construction

.6 to 6.8 GPM — Pressures to 400 PSI

for Hydraulic, Pressure Feed, or Transfer Work

Space-savers for those stationary or mobile units where dependable pumping is a must. That's the new T Series by Roper ... the compact pump unit that is approximately the same size as a standard motor of HP required for driving. The pump serves as the end bell of the motor ... design eliminates a coupling, thus conserving valuable space. Look into it now — it can well solve some of your pumping problems.

✓ **PUMP HOUSING** — High density cast alloy iron. Single piece back plate serves as end bell of motor.

✓ **PORTS** —  $\frac{1}{2}$ " NPT in faceplate for convenient connections.

✓ **GEARS** — Fatigue-proof steel spur gears run in axial hydraulic balance.

✓ **BEARING** — Heavy duty bronze assures accurate alignment of elements.

✓ **SEAL** — Lip type, with pressure relief system built-in to maintain zero pressure in seal chamber.

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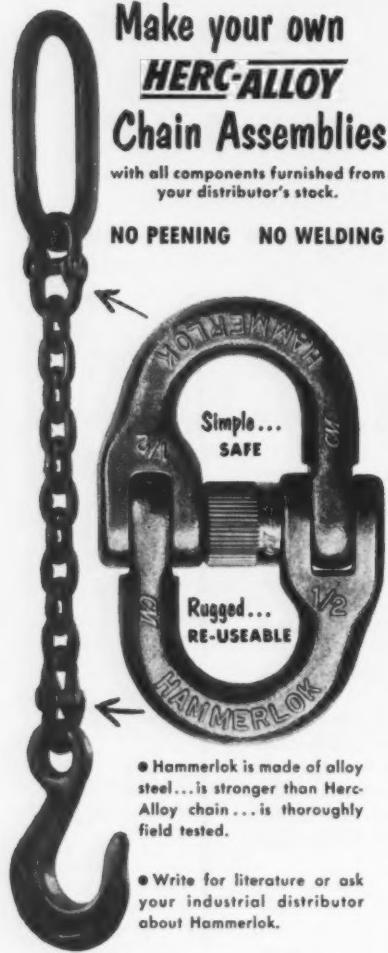
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108

### Merchant Calculators, Inc.



A. F. Kelsey

... has a new director of manufacturing — **Alan F. Kelsey** — formerly in the same position with Magna Power Tool Corp. Kelsey has also been an executive with Hiller Engineering Corp., and an engineer with Boeing Airplane. Merchant also has announced appointment of **John E. Wilson** as plant manager of the firm's Oakland factory. He was previously general superintendent of manufacturing.

### Western Machinery Co.

... has promoted **Leigh M. Jones** to be general manager of the company's industrial sales division. He will be in charge of the division's operations in Denver, Grand Junction, Salt Lake City, Spokane and Phoenix.

### Power Transmission Products, Inc.

... has added **Gene Joehren** to its outside sales force in the Portland area. He has been with the firm for two years as warehouseman and inside salesman.

### Hercules Motors Corp.

... has assigned **George G. (Larry) Downey** to direct Western activities from Hercules' headquarters at 2336 S. Garfield Ave., Los Angeles. A veteran of 30 years experience in sales and engineering, Downey has been

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with Hercules since 1940, recently serving at Canton, Ohio, in an executive capacity. He will supervise development of sales of Hercules engines, as well as distributor and dealer sales and service in 11 Western states, western Canada and Alaska.

### Daubert Chemical Co.

... has transferred **John G. Schafer** to Los Angeles, appointing him Western division manager. Headquartered at 5808 E. 61st St., Schafer will cover the Western states handling Daubert's line of rust preventives, specialty packaging and release papers and automotive undercoating. He joined the firm in 1952 and recently has been a technical service field representative.

### Woodbury & Company



G. Mihalcik

field supervisor in the Eugene and Roseburg area, to replace Rugloski. Mihalcik has been with Woodbury for 23 years, the other two men for about four.



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WESTERN INDUSTRY — June 1958

## AiResearch Mfg. Division

... of The Garrett Corp., announces appointment of Harry H. Wetzel as manager, succeeding Claude N. Monson, appointed vice president in charge of contract administration. Wetzel, previously manager of Garrett's AiResearch Industrial division, was succeeded in that position by Wilton E. Parker, formerly sales manager and chief engineer.

## Allis-Chalmers



R. Engel

... announces appointment of Richard L. Engel as manager of its Industries Group Pacific region. An A-C employee since 1939, he has been Los Angeles district manager since 1953. Succeeding him in that position is Donald E. Steele, recently manager

of petroleum and chemical sales at Los Angeles and employed by the company since 1947.

## Warner & Swasey Co.

... reports that Frank W. Browne is new district manager of West Coast territories—California, Oregon and Washington. Browne, who will have headquarters in Los Angeles, replaces L. R. Hawkins who retired last December.

## Northwest Chains & Sprockets, Inc.

... was represented recently at a special school for crushing and vibrating equipment sales held at the Jeffrey Manufacturing Co. at Columbus, Ohio, by L. Kraig Munson of Northwest Chains' Portland office. The sessions included lectures and practical demonstrations on technical operational aspects of equipment in the field and were attended by Jeffrey distributor representatives from all over the country.

## California Moving and Storage Assn.



J. Kendall

... has honored Jackson W. Kendall of Bekins Van Lines by naming him "Mover of the Year" during its 40th annual convention in Palm Springs. Kendall has been with Bekins for 20 years and is now vice president and transportation engineer.

## Zenith Plastics Co.

... subsidiary of Minnesota Mining and Manufacturing Co., has appointed Capt. Charles E. Trescott, USN (ret.) vice president and general manager of the Gardena, Calif., firm. In his 32 years with the navy, Trescott served in many capacities, most recently as commander of San Francisco naval shipyard. He joined Zenith as manufacturing manager in November, 1957.

# CLASSIFIED SECTION

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## Cannon Electric Co.

... reports that James H. Anderson has been named production manager for its Los Angeles division. A Cannon employee for 16 years, Anderson was a tool and die maker for the firm for several years, before Cannon management training enabled him to become labor relations administrator and then industrial relations manager until his recent appointment.

## Victor Equipment Co.

... has promoted Fred L. Stettner to the position of vice president, engineering-production. Also elected a member of Victor's board of directors, Stettner has been plant manager since 1948. He joined the firm in 1943 after more than two years with General Electric.

## Tidewater Oil Co.

... has promoted Oscar Larson to the post of manufacturing manager of the firm's seven-state-and-Hawaii Western division. A Tidewater employee since 1923, Larson succeeds Thomas O. Edwards, recently retired after 37 years' service.

## General Metals Corp.

... has two new assignments concerning Harold W. Schmid and Leo Wansink. Schmid, vice president of the Oakland corporation and general manager of its Houston forge plants, will also be general manager of the firm's foundry and forge plants in Los Angeles, where he will make his headquarters. Wansink, former Los Angeles plant manager, has been made assistant to the president, William E. Butts.

## Portland Electric & Plumbing Co.

... reports that Harlan Jacobsen is manager of hardware and builders' hardware sales. He covers the Portland area and southern Oregon.

## Chicago Blower Corp.

... has announced Donald W. Davis' appointment as Western sales manager, with responsibility for the firm's 35 sales offices in the Western two-thirds of the country. A veteran sales executive in the air conditioning, heating and ventilating field, he was formerly with Westinghouse Electric Corp.

# ADVERTISERS

in the June 1958  
WESTERN INDUSTRY

A	E	P			
Aeroquip Corporation .....	88	Easterday Supply Co. ....	Cover 2	Pacific Intermountain Express Co. ....	101
Alan Wood Steel Company .....	19	Electric Steel Foundry Company .....	75	Pacific Scientific Company .....	48
Allis, Louis, Company, The .....	65	Empire Steel Buildings .....	53	Pacific Telephone & Telegraph Co., The .....	82
American Brass Company, The .....	43 & 44	Evans Rule Co. ....	102	Pacific Tube Company .....	66
American Chain & Cable Company, Inc. ....	102			Parker, Sid E., Boiler Mfg. Co. ....	96
American Chain Division .....	102			Pasco Steel Corp. ....	57
American Chain Division .....	102	Fairbanks, Morse & Co. ....	49	Pennzoil Company, The .....	80
American Chain & Cable Company, Inc. ....	102	Fibreboard Paper Products Corporation .....	10	Porta House .....	106
American Monorail Co., The .....	84	Foster, L. B., Company .....	108	Fogut Sound Fabricators, Inc. ....	91
Ampco Metal, Inc. ....	79				
Anaconda Wire & Cable Company .....		G		R	
Subsidiary of Anaconda Copper Mining Company .....	88	General Petroleum Corporation .....	8	Ridge Tool Company, The .....	59
Armco Drainage and Metal Products Inc. ....	47	Globe Hoist Company .....	92	Rippolite Plastic Products Inc. ....	56
				Roper Hydraulics, Inc. ....	107
		H		Russell, Burdsall & Ward Bolt & Nut Co. ....	83
B		Harnischfeger Corporation .....	87	Rust-Oleum Corporation .....	67
Bobbitt Steam Specialty Co. ....	86	Hill Transformer Co. ....	68		
Boston Gear Works .....	16	Hubbell, Harvey, Inc. ....	24	S	
Brown, David, Co., Inc. ....	76	Hundley Engineering .....	108	Sarco Company, Inc. ....	6 & 7
		Hyster Company .....	5	Shell Oil Company .....	13
C		I		Signode Steel Strapping Company .....	70
Clements-Cadillac Quik-Vac .....	90	Industrial Air Products .....	80	Smith Welding Equipment Corporation .....	104
Cleveland Tramrail Division .....		J		Smooth-Holman Company .....	85
The Cleveland Crane & Engineering Co. ....	14 & 15	Jeffrey Mfg. Co. ....	11	Soule Steel Company .....	51
Cleveland Vibrator Company .....	104	Johnson Gear & Mfg. Co. Ltd. ....	98	SprayKing, Inc. ....	95
Colorado Fuel and Iron Corporation, The .....	72	Johnston, A. P., Company, Inc. ....	110	Standard Horse Nail Corporation .....	91
Colson Equipment & Supply Co. ....	103			Standard Oil Company of California .....	62
Colt Ventilation of America, Inc. ....	26	L		Stanley Steel Strapping Division of The Stanley Works .....	Cover 4
Columbia Wax Company .....	105	Leedon Mfg. Co. ....	97	Stran Steel Corporation (West Coast Dealers' Program) .....	55
Columbia-Geneva Steel Division .....		Louis Allis Company, The .....	65	Superweld Corporation .....	86
United States Steel Corporation .....	81	Lufkin Foundry & Machine Co. ....	25	T	
Columbus McKinnon Chain Corp. ....	108	M		Toledo Pipe Threading Machine Company, The .....	46
Cratex Manufacturing Company .....	99	Maltby, Edward D., Co. ....	84	Towmotor Corporation .....	27
Crown Zellerbach Corporation .....	17	Micro Switch, A Division of Minneapolis-Honeywell Regulator Co. ....	18	U	
Cullman Wheel Co. ....	21	Miller Electric Manufacturing Co., Inc. ....	100	United States Steel Corporation Columbia-Geneva Steel Division .....	81
Curtis Manufacturing Company (Industrial Division) .....	101	Milwaukee Electric Tool Corporation .....	60	W	
D		Monarch Rubber Company, The .....	3	Watco Sales Co. ....	61
Darnell Corporation, Ltd. ....	94	N		West Bend Equipment Corporation .....	106
Dayton Foundry .....	91	National Supply Company, The Industrial Products Division .....	9	Western Packaging & Materials Handling Exposition .....	23
Dempster Brothers, Inc. ....	22	North American Asbestos Corporation .....	90	Y	
Denison Engineering Co. ....	73			Yale & Towne Mfg. Co., Yale Materials Handling Division .....	69
Dick, R. & J., Company, Inc. ....	12				
Dodge Manufacturing Corporation .....	89				
Ducommun Metals & Supply Co. ....	Cover 3				

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101  
48  
The 82  
...  
66  
96  
57  
80  
106  
91  
  
39  
56  
107  
83  
67  
  
6 & 7  
13  
70  
104  
85  
51  
95  
91  
62  
  
Cover 4  
  
55  
86  
  
y.  
46  
27  
  
81  
61  
106  
23  
  
69

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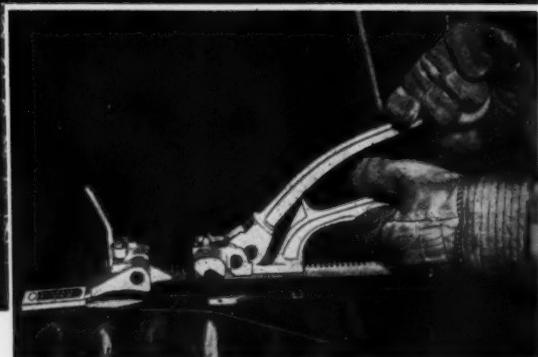
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